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Flexible Employment: Composition and Trends

by

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I. Introduction

U.S. labor markets exhibit considerable heterogeneity in hours, duration, and compensation arrangements. For example, 53 percent of 1993 workers were paid on an hourly basis, 17.5 percent worked part-time, 8.7 percent reported that they were self-employed in unincorporated businesses, 0.6 percent held primary jobs in the personnel supply services (PSS) industry, 3.5 percent were hourly workers paid at or below the federal minimum wage, and 31.8 percent held full-time salaried positions. Each category incorporates some degree of flexibility and adjustability. However, the unique characteristics of self-employment and PSS employment place workers in these sectors at the far end of the flexibility spectrum and make them the focus of this article.

Interest in self-employed and PSS workers stems from the differences between these forms of employment and the traditional employment relationship. The traditional employment contract, including that for part-time work, is an agreement between the employee and the employer which involves an expectation of an ongoing relationship, even though either party might terminate the relationship at any time. Many self-employed persons, particularly independent contractors, contract with clients and consumers but the parties expect the relationship to dissolve and the worker to become involved in other projects. Similarly, employment involving PSS firms has an ephemeral component. Temporary help supply firms, a principal component of the PSS industry, supply temporary labor on a contract basis to other firms. Workers remain on the payroll of the supply firm but work for and are under the supervision of the client firm. The supply firm receives a fee for its services above the wage paid to the worker. The arrangements between the PSS firms and the client firms, and the arrangements between the PSS firms and the workers allow for easy adjustment on short notice.

Essentially the three parties agree in advance on the transitory nature of the arrangement.

The goal of the analysis is to compare flexible workers, defined as hourly PSS workers and self-employed workers, to other workers and to highlight the differences within forms of flexible work. Comparisons are made in several dimensions. Section II documents the aggregate size, growth, cyclicality, and variability of flexible work relative to aggregate employment. Self-employment is shown to be a sizeable but slowly declining fraction of the labor market. In contrast, PSS employment is a small component of the aggregate that exhibits highly cyclical growth, on average several times the growth rate of total employment. Tabulations from the 1983-93 Current Population Survey (CPS) presented in section III document the demographic and occupational differences between flexible and traditional workers by comparing hourly workers within the PSS industry, self-employed workers in unincorporated business, and incorporated self-employed workers to all workers and the subset of all workers compensated on an hourly basis. The analysis highlights differences between flexible workers and other workers. Additionally it shows the importance of individually analyzing each type of flexible worker. The analysis distinguishes between two forms of self-employed workers and PSS workers but there are likely to be important differences within these categories as well. The repeated cross-sectional nature of the data also provides an assessment of changes over time in the characteristics of workers in each category. Lastly, section IV uses a matched sample of CPS data to examine turnover within the employment categories as a measure of the extent to which individuals become permanently attached to the various employment arrangements. Section V summarizes the results.

II. Size, Growth, Cyclicality, and Variability

Size of the Flexible Labor Force. Estimating the size of the flexible workforce requires a method of identifying a flexible worker. Most of the following analysis relies on information collected in the monthly employment surveys of firms and households to identify workers in the PSS industry and workers who are self-employed. Thus, the analysis uses the survey information on industry and form of employment contract to identify persons in alternative work arrangements that are likely to be flexible. The establishment level survey categorizes employment according to the Standard Industrial Classification (SIC) scheme. Tabulations are available on the number of positions in the PSS industry (SIC 736) and its two main components: employment agencies (SIC 7361) and help supply services (SIC 7363). The upper portion of table 1 summarizes this data for 1993. Temporary help supply workers are not currently identified in the establishment data; they are combined with employee leasing personnel into the larger category of help supply services. As table 1 indicates, approximately 1.7 million people worked in the help supply industry during the typical week in 1993 and the vast majority of these workers were production (nonsupervisory) workers. Prior to the 1987 revision of the SIC coding scheme, the establishment survey tabulated temporary help supply services employment explicitly. The earlier data and subsequent private estimates commissioned by the National Association of Temporary and Staffing Services (NATSS) suggest that almost all of the help supply services employees are temporary help workers. Including permanent employees and employees of leasing services, the help supply industry accounted for 1.5 percent of total nonagricultural 1993 employment. Although the industry is a small fraction of the economy it is significant to the 1.7 million job holders and changes in the industry might be

indicative of aggregate, but less observable, trends. Personnel agencies employ another 0.2 million workers bringing the total for the PSS industry to 1.9 million workers or 1.7 percent of total nonfarm employment.

The relatively small size of the help supply services industry prohibits the identification of help supply services workers in the household survey. However, the survey does identify workers whose primary employment was within the PSS industry, of which help supply services employment is approximately 85 percent. The lower portion of table 1 indicates that in 1993, PSS employment based on the household survey was only 0.7 million people or 0.6 percent of the total civilian employment, substantially smaller than the 1.7 percent estimate from the establishment survey. General differences between the household and establishment surveys are well documented.[1] The household survey counts workers according to their self-reported primary job while the payroll survey counts all jobs. Thus persons holding second jobs in the PSS industry are not included in the household survey estimate. Self-reporting may be a further source of discrepancy if survey respondents indicate that they work for the client's firm even though they were compensated by the PSS firm.

The establishment survey excludes self-employed workers, but they are measured by the household survey. In an attempt to separate independent contractors from business owners the Bureau of Labor Statistics' (BLS) definition of a self-employed person includes only those people who have not incorporated their business enterprise. Individuals who are incorporated and self-employed are counted as regular employees. Following the BLS convention, the term self-employed refers to the group that is not incorporated unless otherwise indicated. In 1993, some 10.3 million people reported that they were self-employed and another 3.6 million persons

indicated they were self-employed and incorporated. Thus, self-employment is from 8.7 percent to 11.8 percent of the 119.3 million civilian workers depending on the treatment of the incorporated group (table 1). By either measure self-employment is several times more common than PSS employment.

The term *contingent workforce* is often used in reference to part-time, not incorporated self-employed, and PSS workers.[2] Under this definition, and identifying self-employed and PSS workers according to their primary job, the household survey classifies approximately 26 percent of all 1993 workers as contingent after adjusting for the overlap between categories. The fraction of workers involved in contingent work did not vary significantly over the period 1983 through 1993. In other words, the total number of contingent workers grew at a rate roughly consistent with overall employment. However, the individual components have grown at substantially different rates as discussed further on.

A recent BLS survey proposed a definition of a contingent worker tied directly to a measure of job security.[3] The February 1995 CPS supplement defined contingent workers as "those individuals who do not perceive themselves as having an implicit or explicit contract for ongoing employment." The criteria used in the survey was an expectation of employment for an additional year under the assumption of a stable economy. The survey produced several size estimates of the contingent workforce, all of which are substantially smaller than the employment category based estimate discussed above. Only 2.8 percent of all workers, including temporary help, self-employed persons, and independent contractors, worked at their current job for less than a year and expected their employment to last one additional year or less. For temporary and contract workers the job was defined in terms of the current client rather than

the temporary help firm or the contract firm. Recall that more than one quarter of total employment involves part-time, self-employment, or PSS work. Thus most workers, including many self-employed and PSS workers, have long-term, stable employment relationships. The special survey, while useful, lacks an ability to track trends over time. Hence the remainder of this paper will focus on the more easily observed categories of self-employment and PSS employment. Although workers in these categories are not necessarily contingent, their employment relationships include a unique aspect of flexibility relative to the typical worker.

In summary, a sizeable portion of workers hold positions that are likely to be flexible. In 1993 this included 10.3 million self-employed persons, and between 0.6 and 1.5 million PSS workers, depending on the source of the estimate. However, the 1995 CPS supplement suggests that these alternative work arrangements are characterized by a fair degree of permanence as less than 3 percent of all workers expect their job to terminate within a years time.

Growth and Cyclicality. Table 1 showed that self-employment and the PSS industry involved upwards of 11 million workers in 1993 or between 9 percent and 10 percent of total employment. Much of the recent attention paid to flexible work, particularly temporary work, is due more to its growth than its size. Figures 1 and 2 examine the growth of flexible work by graphing the growth rate of PSS employment (help supply services and personnel agencies) and self-employment from 1972 through mid-1995.

Personnel supply services employment, the solid line in figure 1, expanded rapidly following the 1990-91 recession, growing at an annual rate approaching 20 percent. This small sector, less than 2 percent of total employment, accounted for roughly 30 percent of the employment growth that occurred between March 1991 and March 1992. Rapid expansion

following a recession is not unusual for this industry. Similar growth spurts occurred after each of the recessionary periods marked with shading on the figure. Thus the increased number of PSS workers in the early 1990's is a continuation of the growth trend observed since at least the early 1970's. Over the 1972-1995:Q2 sample period of the graph the average growth rate of PSS employment was 11.9 percent per year compared to 2.1 percent average growth for aggregate employment. Figure 2 displays the annualized growth rate of self-employment. Although several times more prevalent than PSS workers, the self-employed pool grew substantially more slowly than PSS employment. Self-employment growth averaged 1.8 percent per year since 1972, slightly below the rate of aggregate employment growth.

Ease of adjustment suggests that flexible employment should be more volatile and exhibit greater cyclicality than other forms of employment. These relationships are observable in the PSS data but not in the self-employment data as summarized in table 2. In addition to growing five times faster than aggregate employment, PSS employment growth displays a much higher variance, swinging from below -10 percent growth to above +20 percent growth over the course of a business cycle. The standard deviation of the growth rate is 12.9 percent. The dashed line in figure 1 depicts the growth rate of total nonfarm employment. The two lines have similar shapes even though PSS employment has a higher mean and a higher variance; the contemporaneous correlation between the two series is 0.8. Table 2 documents the growth rates and volatility of several other employment categories including part-time employment and self-employment, neither of which grows as fast, is as variable, nor displays the cyclicality of the PSS industry. Reinforcing this observation, the correlation between self-employment growth and aggregate employment growth in figure 2 is only 0.16. The correlation with employment

growth measured by the household survey is larger, 0.3, but it is still weak evidence of a cyclical relationship.[4] Similarly the correlation between the growth rate of part-time employment and the growth rate of employment measured by the household survey is approximately 0.3.

III. Characteristics of Flexible Workers

The growing number of self-employed and temporary workers raises questions about who these workers are, what they are doing, and how the work forms changed over time. The CPS data identifies self-employed and PSS workers based on their primary job along with their demographic characteristics and occupations. Hence it is a useful tool to address these questions. Table 3 uses the 1983-93 CPS outgoing rotation data, approximately 40,000 observations gathered each month, to examine five categories of workers. The first two categories consist of self-employed workers, not incorporated and incorporated respectively. The next category consists of hourly workers reporting a primary job within the PSS industry. Isolating hourly workers narrows the focus towards temporary, and hence more flexible, workers. The final two categories, all workers and all hourly workers, serve as comparison groups. Each row of the table corresponds to a statistic computed for the five worker categories on an annual basis from 1983 through 1993. The table reports the eleven year average value of the statistic as well as a trend measure computed from a regression of the annual values against a linear trend. The trend estimate corresponds to the expected one year change in the statistic. In this way the table summarizes the level of the statistic and the direction of change. For example, the eleven-year average median age of a self-employed individual is 42.3 years and there is a small trend towards older workers as indicated by the trend coefficient of 0.1.

Demographic Characteristics. The demographic analysis begins with a comparison of self-employed workers versus all workers. The self-employed category has a larger male fraction, tends to be older, is more likely to be white, is slightly better educated, and has a higher marriage rate. The median age of a self-employed not incorporated worker averages 42.3 years, more than six years older than the typical worker. Sixty-eight percent of the self-employed are male compared to 55 percent overall and three fourths are married compared to 60 percent overall. One interpretation of the high marital rate for self-employed persons is that a spouse provides a safety net to a self-employed person. However, there is little variation across categories in the fraction of workers who are the sole employed person in the household. Approximately 30 percent of workers in the CPS data, regardless of category described by table 1, are the sole employed person within their household during the survey week.

Incorporated self-employed individuals are yet further from the typical worker in all these dimensions. On average they are better educated (43.5 percent have college degrees and less than 7 percent have below a high school education), are more likely to be male (almost 80 percent), and are several years older. It is interesting to note that the characteristics that distinguish the self-employed group from the typical worker are the characteristics usually associated with stronger labor market attachment, not weaker as the terms contingent or flexible might suggest. Additionally the trend measures suggest that the self-employed groups change in ways similar to the economy as a whole.

As previously noted, temporary workers and self-employed workers are often aggregated into a single category of contingent worker, yet table 3 highlights several differences between the two categories. The median age of an hourly PSS workers, our proxy for temporary workers,

tends to be three years below that of the typical worker. However, the age distribution of hourly PSS workers resembles that of other hourly workers. A relatively small fraction of PSS workers possess a college degree, 17 percent versus 23 percent for the aggregate. Yet, this is almost twice the fraction observed for all hourly workers. Nearly three-fourths of PSS workers are female but there is a trend towards more male workers in the industry. The trend estimate from table 3 suggests that the percentage of PSS workers that are male increases by 1.7 points per year. Only 22 percent of the 1983 sample was male while in 1993 the male share approached 39 percent. Over the same period the male component of the overall workforce was falling by nearly a quarter of a point per year. Evidently, part of the growth of the PSS industry is related to the inflow of male workers. Compared to all workers, hourly PSS workers tend to be younger, slightly less educated, more likely to be female, more likely to be black, and less likely to be married. Compared to hourly workers, PSS workers tend to be of comparable age but better educated.

Thus, there are significant differences in age, race, gender, and educational attainment of flexible workers and other workers. However, self-employed workers tend to be extreme in one direction while PSS workers tend to be extreme in the opposite direction. The trend estimates indicate that flexible workers and traditional workers are changing in similar ways with two exceptions. First male workers are becoming more prevalent in the PSS industry while becoming a smaller share of overall employment. This is an example of the PSS sector becoming more similar to the aggregate. Second, the fraction of PSS workers who are the sole employee in their household is increasing while there is an overall trend towards multiple workers in the home.

Hours of Work. Table 4 examines the number of hours worked by each category of employee in a format similar to the preceding table. Approximately 19 percent of all employees in the sample and 25 percent of hourly employees worked part-time, less than 35 hours per week, and the fraction increases slightly each year. Twenty-four percent of self-employed persons report that they worked less than 35 hours during the survey week on all jobs and hence are classified as part-time workers. The fraction of self-employed persons working part-time grows by approximately one-half of a percentage point per year. Nearly a third of the part-time self-employed report that they were part-time for an economic reason, slightly above the aggregate value of 28 percent. The difference in part-time status due to economic reasons is consistent with the notion that firms curtail the use of flexible workers, including self-employed workers, before adjusting the hours of traditional workers. The part-time rate for incorporated self-employed persons is only 10 percent and 18 percent of those attribute their part-time status to an economic reason. Median hours for this group averaged 48.8, well above the norm of 40. Interpretation of the number of hours worked by self-employed persons requires careful consideration. Workers employed by firms are likely to report the hours for which they receive compensation. Self-employed persons, regardless of incorporation status, might report a positive number of hours worked even if no payment was received for their effort.

PSS workers in the sample are twice as likely as the typical worker to work part-time and, similar to the self-employed category, there is an above average rate of part-time work for economic reasons. In other words, 36 percent of hourly PSS workers are part-time employees and more than half of them prefer to work full-time. Again, the large fraction of people working below their desired number of hours is consistent with the notion of firms adjusting their use of

flexible workers before adjusting their use of permanent workers. Although the fraction of part-time workers in PSS remains nearly constant throughout the sample, there is a trend in the median number of hours. In 1983, the median number of hours worked by a PSS worker was 36 per week but it grew to 40 by 1993, matching median for all workers. The growth corresponds to a time trend of 0.4 additional hours per week. This is another way in which flexible work has become more like permanent work.

A complete analysis of wage differentials is beyond the scope of this project.[5] However, the 1983 data show a 13 percent difference between the median hourly wage of a PSS worker and the median hourly wage of all workers. Although it fluctuates over time there is some evidence of the gap widening over time which may be the result of the demographic and occupational changes that occurred in the industry. In 1993 the wage gap was 16 percent. Bear in mind that wage differentials do not completely capture what workers receive nor what firms pay. Benefits, training, and overhead costs, including payments to the PSS firms are omitted. It is an open question whether temporary workers represent a cost savings to the firm or whether firms pay a compensating differential for the added flexibility. Furthermore the division of any differential between the supply firm and the employee is unclear.

Occupational Distribution. The decomposition of PSS employment into white-collar, blue-collar, and service occupations differs from that of the aggregate economy (table 5). Overall, slightly more than half of all the workers are in white-collar occupations, approximately a quarter are involved in blue-collar activities, fourteen percent are in service occupations, and the remainder are in agricultural activities. The PSS category has a larger white-collar component, 63.5 percent compared to 56.3 percent overall. However, two-thirds of the PSS

white-collar workers hold administrative support positions, including clerical occupations. Averaging across the 11 year sample, 43 percent of PSS employment is in administrative support and clerical occupations compared to only 16 percent of aggregate employment and 18 percent of hourly workers. However, the trend coefficient indicates that the fraction of PSS employment in these occupations falls by nearly three-fourths of a percentage point per year. Simultaneously, blue-collar occupations, particularly machine operators, assemblers, and inspectors became more prevalent. The 1983-93 average blue-collar occupation component was 18.6 percent with an upward trend of 1.4 percent per year. The increase in the share of blue-collar occupations within the PSS industry occurred while the blue-collar share of aggregate employment declined. The negative trends in the white-collar and service shares of PSS employment do not suggest that these sectors are shrinking in absolute size; recall that employment in the PSS industry expands at approximately 11 percent per year. Employment within the white-collar and service segments of PSS is growing but less rapidly than the blue-collar segment. PSS workers, regardless of occupation or client industry, are counted as part of the service sector. However, the increased usage of blue-collar PSS workers suggest that they are becomming more important in sectors dominated by blue-collar occupations, including the manufacturing industry.

The occupational distribution of unincorporated self-employed persons resembles the economy as a whole, even at the disaggregate level. Additionally the occupational trends in self-employment move in the same direction as the aggregates. In contrast, incorporated self-employment occurs almost entirely in white-collar occupations, primarily executive, administrative, and management positions (35.9 percent) and sales (24.8 percent).

IV. Transitions Into and Out Of Flexible Employment

An ongoing question is the extent to which individuals become trapped in flexible work while preferring more traditional employment. It is difficult to identify when an individual prefers a flexible work situation and when flexible work is undertaken as a last resort. As an alternative, it is useful to document the rate at which individuals change employment conditions or conversely the rate at which they retain positions. The CPS survey does not measure employment tenure on a regular basis. However, because households are interviewed multiple times, it is feasible to examine whether persons move in and out of flexible employment over time. The outgoing rotation data includes households surveyed at two points in time a year apart. The data uniquely identify households over time but not specific individuals within households. Yet, persons can be matched across time using their demographic characteristics provided they have not changed residences.[6]

Table 6 summarizes the labor market transitions observed within the matched CPS sample. The upper portion of the table describes the year ago state of workers currently in the employment category described by the column heading. The lower portion describes the status of workers in the subsequent year. There is a great deal of symmetry between the two parts of the table. For example, the top portion indicates that nearly 91 percent of the employed population had been employed a year earlier and the lower portion indicates that a similar fraction were likely to be employed a year later. The comparable rate for hourly workers is several percentage points lower but still quite high. PSS workers exhibit considerably less attachment to the labor market while self-employed persons exhibit considerably more attachment. The table shows that only 75 percent of PSS workers were employed in any

capacity a year earlier and only 80 percent are employed a year later. Furthermore, only 30 percent of PSS workers are in PSS positions a year later. In other words, 70 percent of PSS workers depart from the industry within a year, and about 70 percent of these move to another employment sector. There is a potential bias in these measures as a PSS worker who is not called upon to work during the survey week while maintaining a relationship with the PSS firm might be categorized as unemployed. However, the bias is limited as only 6 percent of PSS workers transition into unemployment a year later and only 9 percent were unemployed a year earlier. Compared to the aggregate, the transition rates from outside the labor force into PSS employment and vice versa are quite high at 15.2 and 13.8 percent respectively. Thus, relative to all workers and relative to all hourly workers, PSS workers have low attachment to the labor marker and even lower attachment to the PSS industry.

The exact opposite is true of self-employed persons. On a year to year basis self-employed persons in unincorporated businesses remain employed at a rate comparable to all workers in the economy, approximately 90 percent. Most remain self-employed from year to year. In the neighborhood of 85 percent of the self-employed report that they were self-employed a year earlier, and the data show a similar fraction self-employed a year later. Needless to say, transition rates to/from unemployment and out of the labor force for the self-employed group are well below average. Incorporated self-employed persons, display even stronger attachment to the job market, with more than 95 percent of them remaining employed a year later and almost all of these are still self-employed. Once again, although both self-employment and PSS employment are nontraditional employment relationships, there are significant differences between the two forms.

V. Summary and Conclusion

Based on the CPS outgoing rotation data, more than a quarter of U.S. employment over the period 1983-93 involved contingent work, broadly defined as part-time employment, self-employment, or work in the personnel supply services industry, including temporary help services. I examine the self-employed and personnel supply services components in order to document the differences between flexible and traditional workers, and the differences between categories of flexible workers. Although the fraction of workers involved in contingent work remained roughly constant over the sample decade, personnel supply services employment grew at a rate 5 times that of aggregate employment since the early 1970's. In contrast, self-employment growth was slightly slower than the aggregate over the same period. Additionally the employment growth of the personnel supply services sector is highly variable and highly cyclical, so that a growth rate approaching 20 percent per year is not uncommon in the early months of an economic recovery. Even with the rapid growth of the past twenty years, the personnel supply services industry remains a small component of the flexible workforce and an even smaller component of aggregate employment. For example, in 1993 personnel supply services employment was only 1.7 percent of total employment compared to 8.7 percent for self-employment.

There are significant differences between personnel supply services workers, self-employed persons, and other workers. Hourly personnel supply services workers tend to be younger, are more likely to be minority, and are more likely to be female than the typical worker. The same is true relative to the typical hourly worker. However the personnel supply services workers have more education, on average, than other hourly workers. This is perhaps not

surprising given that more than 60 percent of personnel supply services workers hold white-collar occupations. The white-collar category includes clerical occupations which account for more than 40 percent of total personnel supply services employment. Self-employed workers tend to be older than the typical worker and nearly 70 percent of the group are male. The median age is higher and the male component is larger yet for incorporated self-employed persons who are excluded from the standard governmental counts of self-employed persons. The median age of a self-employed and incorporated person is 44.5 years, almost ten years above the estimate for the aggregate worker and almost 80 percent of them are male. Self-employed persons, regardless of incorporation status, tend to remain self-employed from year to year. Thus, the composition of the sector changes very slowly.

A high turnover rate accompanies the rapid growth of the personnel supply services industry and personnel supply services workers exhibit weak attachment to the labor market. An analysis of matched observations from the CPS data finds that less than one third of personnel supply services workers are likely to be employed in the industry a year later. Almost a fifth are without a job, unemployed or out of the labor force, a year later. This leaves a large segment who transition into traditional employment. Approximately 50 percent of the personnel supply services workers identified a year later were employed in another industry. The composition of the industry changed as it grew. In particular, there is evidence of an increase in the fraction of male workers and an increase in the share of blue-collar occupations. Both of these measures declined in the aggregate over the 1983-93 period. Additionally, there is some evidence that hours of work per week increased for personnel supply services workers although the part-time employment rate remains quite high.

This article documents the composition and growth of two forms of flexible employment. Self-employed and personnel supply services workers are shown to differ from more traditional workers as well as from each other. Many questions remain unanswered and as flexible employment continues to grow so will the need to understand these forms in greater detail.

Table 1
1993 Employment Levels

Category	Millions of Workers	Percent of Total
Establishment Survey		
Total Nonfarm Employment	110.7	100.0
Personnel Supply Services Employment (SIC 736)	1.9	1.7
Personnel Agencies Employment (SIC 7361)	0.2	0.2
Help Supply Services Employment (SIC 7363), including temporary help supply services and employee leasing services	1.7	1.5
Help Supply Services Employment, production workers	1.6	1.5
Household Survey (Current Population Survey)		
Civilian Employment	119.3	100.0
Self-Employment (not incorporated)	10.3	8.7
Self-Employment (incorporated)	3.6	3.1
Personnel Supply Services Employment (SIC 736)[a]	0.7	0.6
Part-Time Employment	20.9	17.5
Part-Time, Self-Employed (not incorporated) or Personnel Supply Services Employment [a,b]	34.0	26.0

Source: Bureau of Labor Statistics, Current Population Survey and Establishment Survey.
Notes: a. Based on estimates from the CPS outgoing rotation data.
b. Estimate avoids double counting of persons in multiple categories.

Table 2
Quarterly Employment Growth and Volatility (1972-1995:Q2)

Employment Category	Mean Growth Rate (% annualized)	Standard Deviation of Growth Rate	Correlation With Total Nonfarm Employment Growth
Establishment Survey			
Total Nonfarm Employment	2.1	2.4	1.0
Business Services Employment	6.8	4.4	0.8
Personnel Supply Services Employment	11.9	12.9	0.8
Household Survey (Current Population Survey)			
Civilian Employment	1.9	2.2	0.9
Part-Time Employment	2.5	4.8	0.0
Self-Employment, not incorporated	1.8	4.5	0.16

Source: Bureau of Labor Statistics, Current Population Survey and Establishment Survey.
Notes: The correlation between part-time employment and aggregate employment measured by the household survey is 0.3. Similarly, the correlation between self-employment and aggregate employment measured by the household survey is 0.3.

Table 3

Worker Characteristics, CPS Outgoing Rotations 1983-93

	Self-Employed Not Incorporated Workers		Self-Employed Incorporated Workers		Hourly Personnel Supply Services Workers		All Hourly Workers		All Workers	
	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend
AGE										
Median age	42.3	0.1**	44.5	0.3**	32.5	0.1*	32.6	0.3**	35.8	0.3**
Mean age	44.2	0.1**	45.5	0.1**	35.0	0.2*	35.1	0.2**	37.7	0.1**
% Age 16-24	4.8	-0.3**	1.7	-0.1**	23.8	-0.2	25.7	-0.7**	17.3	-0.6**
% Age 25-34	22.4	-0.4**	17.1	-0.5**	32.1	0.0	29.1	-0.0	28.6	-0.2**
% Age 35-44	27.9	0.5**	31.3	0.1	22.1	-0.2	21.2	0.6**	24.7	0.6**
% Age 45-54	20.9	0.4**	26.4	0.5**	13.2	0.2	13.5	0.2**	16.4	0.3**
% Age 55-64	15.9	-0.1**	17.1	-0.1	6.8	0.1	8.4	-0.1**	10.1	-0.2**
% Age 65 and above	8.1	0.0	6.4	0.1**	2.0	0.0	2.0	0.0	2.8	0.0
EDUCATION										
% With some high school	10.5	-0.4**	4.4	-0.2**	10.0	-0.3**	15.9	-0.5**	11.3	-0.4**
% High school graduates	35.2	-0.1**	26.3	-0.2**	36.3	-0.3	42.9	-0.2**	35.9	-0.3**
% With some college	22.5	0.4**	23.9	0.2**	33.1	0.2	26.4	0.6**	25.0	0.4**
% With college degree	25.4	0.4**	43.5	0.3**	17.4	0.5**	9.1	0.2**	23.2	0.4**
GENDER AND MARITAL STATUS										
% Male	68.4	-0.3**	79.2	-0.4**	27.2	1.7**	51.0	-0.2**	55.1	-0.2**
% Married with spouse present	74.5	-0.4**	83.4	-0.3**	44.7	-0.8**	53.6	-0.3**	60.6	-0.2**
% Sole employee in household	31.5	-0.2**	29.9	-0.4**	29.8	0.5**	28.7	-0.2*	30.4	-0.2**
RACE AND ETHNICITY										
% White	94.0	0.2**	96.4	0.3**	77.0	0.1	85.4	0.1*	88.1	0.2**
% Black	4.3	0.1**	1.9	0.0	21.3	0.2	12.8	0.1**	10.1	0.1**
% Hispanic	4.7	0.2**	2.9	0.1**	6.3	0.2**	8.7	0.3**	6.9	0.3**

Source: Author's calculations from the outgoing rotations of the Current Population Survey.

Notes: Statistics were computed for each year. Columns labeled "Mean" report the average value of the statistic across the 11 years. Columns labeled "Trend" report the coefficient estimate from a regression of the annual statistics on a constant and a linear time trend. time trend. * and ** indicate a statistically significant trend coefficient at the 90% and 95% confidence level respectively.

Table 4
Hours of Work, CPS Outgoing Rotations 1983-93

	Self-Employed Not Incorporated Workers		Self-Employed Incorporated Workers		Hourly Personnel Supply Services Workers		All Hourly Workers		All Workers	
	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend
Average usual weekly hours on primary job	na	na	40.9	0.3	33.5	0.2**	35.8	0.1**	38.2	0.1**
Median usual weekly hours on primary job	na	na	40.0	0.0	39.4	0.2	40.0	0.0	40.0	0.0
Average hours worked in survey week	41.5	-0.1*	47.6	0.0	33.0	0.1**	36.1	0.1**	39.0	0.17**
Median hours worked in survey week	40.0	0.0	48.8	0.2	37.5	0.4**	40.0	0.0	40.0	0.0
% Part-time	24.0	0.5**	9.5	0.2**	35.6	-0.2	24.7	0.1	18.5	0.1**
% Of part-time that is for economic reasons	30.8	-0.2	18.4	0.1	51.8	0.0	28.1	-0.6**	27.5	-0.5**

Source: Author's calculations from the outgoing rotations of the Current Population Survey.
Notes: Statistics were computed for each year. Columns labeled "Mean" report the average value of the statistic across the 11 years. Columns labeled "Trend" report the coefficient estimate from a regression of the annual statistics on a constant and a linear time trend. * and ** indicate a statistically significant trend coefficient at the 90% and 95% confidence level respectively.

Table 5
Occupational Distribution, CPS Outgoing Rotations 1983-93

	Self-Employed Not Incorporated		Self-Employed Incorporated		Hourly Personnel Supply Services Workers		All Hourly Workers		All Workers	
	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend	Mean	Trend
% White-collar	51.2	0.3**	83.2	0.0	63.5	-0.5**	41.3	0.6**	56.3	0.4**
% Executive, Administrative, and Managerial	14.5	0.2**	35.9	0.2	5.4	0.2*	3.8	0.2**	12.0	0.2**
% Professional Specialty	14.2	0.1**	15.6	0.2*	8.5	-0.2	6.1	0.1**	13.2	0.2**
% Technicians and Related Support	0.7	0.0	0.7	0.0	5.4	0.2**	3.5	0.1**	3.2	0.1**
% Sales	18.7	-0.2**	24.8	-0.3**	1.5	0.0	9.6	0.0	12.0	0.0
% Administrative Support (Including clerical)	3.2	0.1**	6.2	-0.0	42.7	-0.7**	18.3	0.2**	16.0	-0.1**
% Blue-collar	23.2	0.0	11.3	0.0	18.6	1.4**	38.5	-0.6**	27.1	-0.3**
% Precision Production, Craft, and Repair	17.1	0.1	8.5	0.0	2.1	0.1**	14.7	-0.2**	11.8	-0.1**
% Machine Operators, Assemblers, and Inspector	1.9	0.0	0.9	0.0	6.4	0.7**	11.7	-0.3**	7.0	-0.1**
% Transportation and Material Moving	3.4	-0.1**	1.4	0.0	1.4	0.1**	5.1	0.0	4.2	0.0
% Handlers, Equipment Cleaners, Helpers, and Laborer	0.8	0.0	0.4	0.0	8.7	0.5**	6.9	-0.1**	4.1	0.0
% Service	10.9	0.1*	2.5	0.1**	17.6	-0.9**	18.3	0.0	13.5	0.0
% Private Household Service	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.1**	0.8	0.0
% Protective Service	0.1	0.0	0.1	0.0	0.3	0.0	1.9	0.1**	1.7	0.0
% Other Service	10.8	0.1*	2.4	0.1**	17.3	-0.9**	15.7	0.0	11.0	0.0
% Farming, Forestry, & Fishing	14.7	-0.4**	3.0	0.0	0.3	0.0	1.9	-0.0**	3.1	-0.1**

Source: Author's calculations from the outgoing rotations of the Current Population Survey.
Notes: Statistics were computed for each year. Columns labeled "Mean" report the average value of the statistic across the 11 years. Columns labeled "Trend" report the coefficient estimate from a regression of the annual statistics on a constant and a linear time trend. time trend. * and ** indicate a statistically significant trend coefficient at the 90% and 95% confidence level respectively.

Table 6
Mean One Year Labor Market Transition Rates, CPS Outgoing Rotations 1983-93

	Current Employment Category				
	Self-Employed Not Incorporated Workers	Self-Employed Incorporated Workers	Hourly Personnel Supply Services Workers	All Hourly Workers	All Workers
Employment Status in Preceding Year					
Out of the Labor Force	7.0%	2.5%	15.2%	8.2%	6.3%
Unemployed	2.1%	0.6%	9.3%	4.3%	3.0%
Employed	90.9%	96.9%	75.4%	87.5%	90.7%
Employed in Personnel Supply Services	0.3%	0.6%	30.4%	0.6%	0.5%
Self-Employed (inc. and unincorporated)	83.5%	85.1%	3.1%	1.5%	13.0%
Employment Status in Subsequent Year					
Out of the Labor Force	8.9%	4.1%	13.8%	7.8%	6.7%
Unemployed	1.4%	0.6%	6.3%	3.2%	2.4%
Employed	89.8%	95.2%	79.9%	89.0%	90.9%
Employed in Personnel Supply Services	0.4%	0.5%	30.1%	0.6%	0.4%
Self-Employed (inc. and unincorporated)	84.7%	85.5%	3.4%	1.5%	13.2%

Source: Author's calculations from the outgoing rotations of the Current Population Survey.
Notes: Statistics were computed for each year. Columns labeled "Mean" report the average value of the statistic across the 10 years. Columns labeled "Trend" report the coefficient estimate from a regression of the annual statistics on a constant and a linear time trend.

Notes

* The views expressed herein are solely those of the author and do not reflect the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.

1. See Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20 for a discussion of the two surveys.

2. See Anne E. Polivka and Thomas Nardone, "On the definition of contingent work," *Monthly Labor Review*, December 1989, pp 9-14, for a discussion of the term contingent work and related measurement issues.

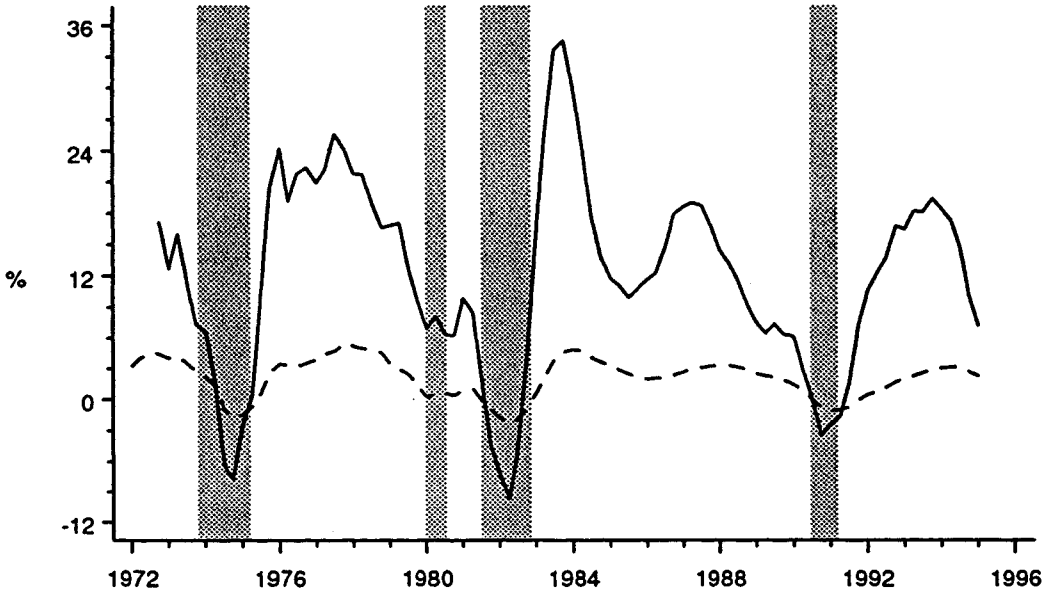
3. U.S. Department of Labor, Bureau of Labor Statistics, Report 900, *Contingent and Alternative Employment Arrangements*, summarizes the survey and presents initial findings. Public use versions of the data are scheduled for release in early 1996. Chapter 1 of *Report on the American Workforce*, U.S. Department of Labor, 1995 also provides a thorough discussion of the survey.

4. A possible explanation for the cyclicality difference between PSS employment and self-employment is a greater ability to adjust hours within the later category. Section IV discusses hours of work for these types of employment.

5. U.S. Department of Labor, Bureau of Labor Statistics Bulletin 2313, *Industry Wage Survey: Temporary Help Supply September 1987* and Bulletin 2430, *Industry Wage Survey: Help Supply Services* provide additional information on wages and benefits. See Lewis M. Segal and Daniel G. Sullivan, "The temporary labor force", *Economic Perspectives*, March/April 1995 for a more thorough discussion of wage rates for the PSS sample of workers discussed in this article.

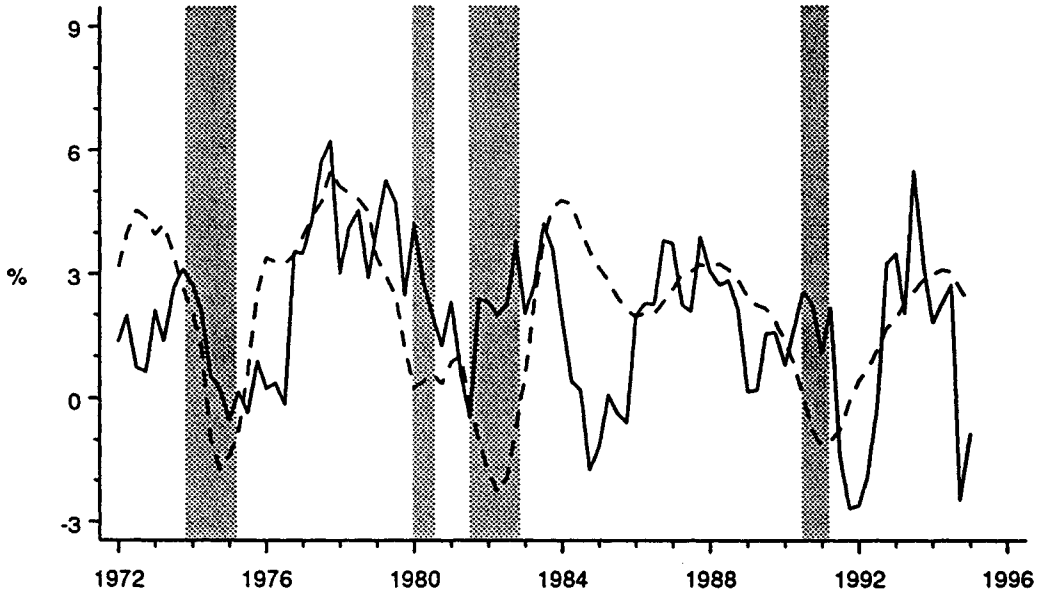
6. Finis Welch, "Matching the current population surveys," *Stata Technical Bulletin*, No STB-12, March 1993 discusses the matching methodology. The direction of possible bias from examining the transitions of nonmovers is ambiguous; both positive and negative events are likely to induce mobility. This style of analysis is also susceptible to measurement error due to misreporting of employment status.

Figure 1
Growth of Personnel Supply Services Employment (annualized %, 5 quarter centered moving average)



Source: Bureau of Labor Statistics, Establishment Survey.
Notes: Solid line indicates the growth rate of PSS employment; dashed line indicates the growth rate of total nonfarm employment.
Shaded areas indicate recessions.

Figure 2
Growth of Self-Employment (annualized %, 5 quarter centered moving average)



Source: Bureau of Labor Statistics, Current Population Survey.
Notes: Solid line indicates the growth rate of self-employment; dashed line indicates the growth rate of total nonfarm employment.
Shaded areas indicate recessions.