How many new jobs since 1982? Data from two surveys differ

Employers have been reporting more job growth than is indicated by the household survey; this divergence may reflect an increase in dual jobholding and in the employment of illegal aliens

Paul O. Flaim

The growth in employment during the expansionary period that began in late 1982 has been extremely robust by any standard. The exact magnitude of the growth, however, depends on the statistical series used to gauge it. As of April 1989, the Bureau of Labor Statistics' survey of employers' payrolls—the Current Employment Statistics program—had shown an increase of about 20 million jobs since November 1982, while the survey of households—the Current Population Survey (CPS) conducted for BLS by the Bureau of the Census—showed an increase of only 18 million in the number of employed persons. There was thus a discrepancy of 2 million between the two surveys.

More recently, the employment figures from the payroll survey have been revised—or "benchmarked"—downward for the period since March 1987,[1] with the level for April 1989 being lowered by more than half a million. This has substantially narrowed the gap in growth estimates between the two employment series. However, for the period from November 1982 to April 1989, the increase in the payroll series still exceeds the growth in total employment, as measured through the household survey, by about 1.4 million.

While much of the divergence between the two series has taken place since mid-1987, their paths had begun to differ noticeably as early as 1984. Such a divergence during expansionary periods is not unprecedented. Even during the expansion of the late 1970's, the payroll survey produced substantially higher estimates of employment growth than did the household survey. Then, as now, the different behavior of the two series was cause for concern among some of the users of these numbers.[2]

Paul O. Flaim is chief of the Division of Labor Force Statistics, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Making the data more comparable

It is important to note that the two surveys do not cover quite the same universe. The employer survey counts *payroll jobs* in the nonfarm sector of the economy, while the household series focuses on employed *persons*, including those in farm work, private household work, unpaid family work, and self-employment. In addition, the two surveys differ in the way they treat dual jobholders and workers on strike or on other unpaid absences. And there are yet other definitional and methodological differences that may allow the trends in the two series to diverge significantly.[3]

For a clearer comparison of the trends in the two series—given the differences noted above—it is useful to adjust the data from the household survey to make them conform more closely to those from the less comprehensive payroll survey. To do so, we must subtract from the household series those groups of workers not covered by the payroll survey. Table 1 summarizes the changes in the data from the two surveys for the period November 1982 to April 1989 both before and after this type of adjustment.[4]

Surprisingly, the difference between the growth paths of the two series turns out to be

even larger when the household data are subjected to this adjustment. While the original estimate from the household series had grown by 1.4 million less than that from the payroll series over the November 1982–April 1989 period, the adjusted series show a bigger and more rapidly expanding growth gap, which is in excess of 2 million for the same period even after the recent downward revision of the payroll data.

As indicated earlier, and as shown in chart 1, the growth disparity between the two jobs series began to develop in mid-1984. During 1985, it averaged about 1 million, but then shrank again, averaging around half a million during 1986 and the first half of 1987. Thereafter, the gap began to widen rapidly, expanding to 2.1 million by April 1989 (and to nearly 2.5 million by May 1989).

Possible reasons for a widening gap

Because the adjustments of the household data outlined above actually pull the paths of the two employment series further apart, we must look for other factors to explain the widening gap, even if we do not have the data with which to quantify their impact. Three such factors are discussed below.

First, the growth of the payroll employment series in recent years may have been boosted by an increase in the rate of dual jobholding—that is, in the number of persons working for more than one employer. Secondly, at least until the recent benchmarking of the payroll data, there appears to have been some overestimation of the jobs being created by newly established firms. And thirdly, the relatively slow growth of the household employment series may reflect an underestimation of the expansion of the population of working age, particularly with regard to the component made up by immigrants.[5]

Dual jobholders. With the strong demand for labor during the recent expansion, many workers may have taken on a second job, perhaps to make up for earnings forgone during the recessions of the early 1980's. By working for two or more employers, these workers would be picked up on more than one payroll. This would lead to an increase in the number of jobs counted in the payroll survey, without affecting the count of employed persons from the household survey—because, in the latter survey, workers are counted only once, regardless of the number of jobs they hold. How important is this definitional difference between the two series in explaining the growing gap between them?

The extent to which dual jobholding may have increased in recent years should be known later this year, when data on "moonlighting"—collected through a special supplement to the May 1989 CPS—become available for analysis. Actually, the data for 1985, the latest available on this topic, already indicated an upward trend in dual jobholding and a possible linkage to the difference in growth between the payroll and the household employment series, which was already becoming noticeable at the time.[6] Because the rate of dual jobholding has also been seen to grow during previous expansionary periods, and because the economy has grown considerably since 1985, a further increase in dual jobholding may be anticipated in the 1989 data.

In this context, it is interesting to note that all of the excess growth in the payroll series, relative to the household series, since late 1982 has occurred in the service-producing industries, principally in retail trade and services. (See table 2.) Many of the jobs in these two industries are of a part-time nature, and their rapid growth would have provided ample opportunities for workers to moonlight. Thus, increased dual jobholding in these two industries is likely to have accounted for a substantial share of the recent divergence between the two employment series.

It should also be noted that, even if a person does not work for two employers simultaneously, he or she can still be picked up on two (or more) payrolls in the survey of employers. This can occur when a worker leaves one job to take up another during the pay period of reference for this survey. Because this type of mo-

Table 1. **Changes in employment from November 1982 to April 1989 as measured through the payroll survey and the Current Population Survey**

[In thousands]

Month and year	Payroll jobs	Total CPS employment	Adjusted CPS employment
November 1982	88,671	99,112	85,116
April 1989	108,094	117,113	102,469
Change over period	19,423	18,001	17,353
Difference between change in CPS employment and change in payroll jobs	—	−1,422	−2,070

NOTE: Data are seasonally adjusted.

The growth disparity between the two jobs series began to develop in mid-1984.

bility is known to increase with the demand for labor, it is likely to have contributed to the rapid growth in the number of jobs reported in the payroll survey during the current economic expansion.

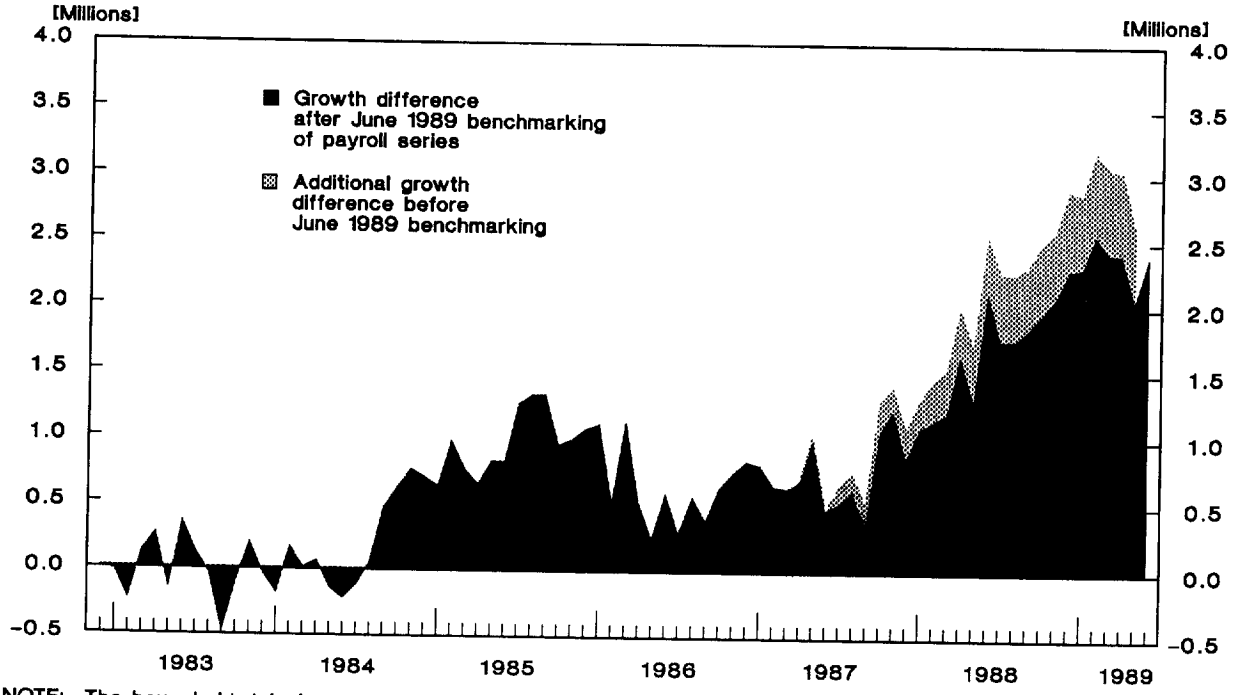
Unfortunately, the dual-jobholders hypothesis does not help at all in explaining why the data from the two surveys have behaved in an entirely opposite fashion in measuring employment growth in the goods-producing industries—mining, construction, and manufacturing. As shown in table 2, the increase in employment in these industries, as well as in a couple of service-producing industries, was actually greater as measured through the household survey than as measured through the payroll survey.

The excess growth has occurred in service-producing industries.

One can only speculate as to why the job data for these industries show a pattern radically different from those for the trade and miscellaneous services industries. Perhaps some of the employment growth in goods-producing industries, which was rather meager over the period in question, consisted of jobs of rather marginal nature that may be reported in the household survey but are not picked up in the establishment-based counts. And there could be other explanations, such as changes in the patterns of unpaid absences, which are treated differently in the two surveys. But there is no actual evidence that any such developments have taken place.

The "new-birth" factor. At least until the recent benchmarking of the payroll data, the estimating assumptions that had to be made about the monthly increases in jobs originating from the "births" of new firms were another factor in the relatively rapid growth of the payroll series. Newly established firms cannot be immediately sampled in the payroll survey, and the number of jobs they create must initially be projected from historical trends. A subsequent annual revision (benchmark) of payroll employment data is then made, based on virtually complete counts of jobs obtained retroactively, largely through the unemployment insurance program. The most recent of these benchmark adjustments was done in June 1989, using actual counts of employment obtained in March 1988. As indicated earlier, the result was a substantial downward revision of the growth in payroll employment since March 1987, with the previously published total for April 1989 being lowered by more than half a million.[7] The direction and magnitude of this revision—illustrated in

Chart 1. **Extent to which the growth in payroll employment since November 1982 has exceeded or trailed the growth in employment as measured by the household survey**



NOTE: The household data have been adjusted to payroll employment concepts.

chart 1—would suggest that the actual rate of job creation stemming from the establishment of new firms was not nearly as strong in the most recent stages of the expansion as had been assumed based on the experience accumulated during the earlier stages of the recovery.

Unfortunately, we will now have to wait until the next annual round of benchmarking, which will be based on a complete count of payroll jobs for March 1989 and be finalized in June 1990, to determine whether the data from the establishment survey, even as recently revised, have accurately portrayed the trend in payroll employment since the March 1988 benchmark count. Depending on the direction and magnitude of future revisions of the payroll data—namely those that will result from the 1990 benchmarking—the growth gap between the two employment series could either be narrowed further or widened once more for the post-March 1988 period.

The population estimates. While it is now obvious that, at least until its recent revision, the payroll series had overstated the growth in employment, the household series has probably understated it. One way this could have come about is if, in projecting the population estimates to which the household job series is hinged, there had been an underestimation of the inflow of aliens into the country. Whether this problem actually occurred during the 1980's, and to what extent, cannot be known with any certainty until the findings from the 1990 census are compiled and analyzed, if then.

In this regard, it is useful to remind ourselves of what happened after the population counts from the 1980 census became available. These counts showed that the population of working age was actually much larger than had been projected in the estimates underlying the household data for the 1970's and early 1980's. The higher 1980 census counts—representing an increase in the size of the undocumented alien population, as well as better reporting by other population groups—made necessary a substantial upward revision of both the population and employment numbers.[8] In fact, the CPS employment estimates for April 1980, the census month, had to be revised upward by about 2 million. The data for all of the 1970's also were modified through a "wedging" procedure to bring them in line with the new numbers for 1980.[9] Until this revision was made, the rate of increase in CPS employment had been much slower than that of payroll employment, creating a pattern very similar to the one we have seen in recent years.

We can only speculate as to how close the 1980 census-based population projections made by the Bureau of the Census for the current decade and beyond will come to the actual findings from the upcoming 1990 census. However, if the projections were to fall substantially short, relative to the 1990 census count, there would have to be another upward revision of both the population data and the labor force and employment numbers from the household survey. Two factors are crucial in this regard: (1) How well the Census Bureau has done in estimating the net inflow of illegal aliens during the 1980's; and, (2) the extent to which these and other persons will actually report themselves in the 1990 census.

The number of illegal aliens is, by definition, extremely difficult to estimate. However, data from the U.S. Immigration and Naturalization Service (INS) suggest an upsurge in illegal immigration during the 1980's. While the INS data relate only to the apprehensions of undocumented aliens, the increase in such cases from about 900,000 in 1980 to about 1.8 million in 1986 (chart 2) has, in all likelihood, been accompanied by a substantial increase in the number of aliens who managed to enter the country without being apprehended. Yet, in the absence of "hard data," this rather strong indication of an upsurge in illegal immigration in the mid-1980's has not yet been taken into account

Table 2. **Comparison of changes in employment between November 1982 and April 1989 in the payroll and household surveys, by industry**

[In thousands]

Industry	Changes between November 1982 and April 1989		
	Payroll survey[1] (A)	Household survey (B)	Difference (A) – (B)
Total nonagricultural wage and salary workers	19,423	[2] 17,182	2,241
Goods-producing industries	2,716	3,625	−909
Mining	−308	−189	−119
Construction	1,432	1,629	−197
Manufacturing	1,592	2,185	−593
Durable goods	1,147	1,417	−270
Nondurable goods	445	768	−323
Service-producing industries	16,707	[2] 13,557	3,150
Transportation and public utilities	662	1,043	−381
Trade	5,315	3,350	1,965
Finance, insurance, and real estate	1,425	1,592	−167
Miscellaneous services	7,506	[2] 5,916	1,590
Government	1,799	1,656	143

[1] Based on preliminary data for April 1989.

[2] Excluding private household workers.

NOTE: Data are seasonally adjusted.

in constructing the official population estimates for the Nation. Instead, it has been assumed that the contribution of illegal aliens to the country's population growth has remained constant during the decade, amounting to some 200,000 per year.

Note from chart 2 that the number of apprehensions of illegal aliens averaged over 1.3 million a year in the 1985–88 period. If we assume that for every two aliens apprehended over this 4-year period, there was one who succeeded in entering the country, the "undetected" inflow would have been well above a half million per year. Thus, the actual yearly increase in illegal aliens (inflows minus outflows) could have averaged far in excess of the 200,000 allowance used by the Census Bureau in constructing the year-by-year population estimates for the 1980's. The 200,000 yearly allowance, it should be noted, is based on the estimated net annual increase in the number of illegal aliens in the early 1980's, years during which unemployment in this country was very high and the demand for labor very low.[10] In subsequent years, when the demand for labor increased considerably, the net inflow of illegal aliens is likely to have reached much higher levels.

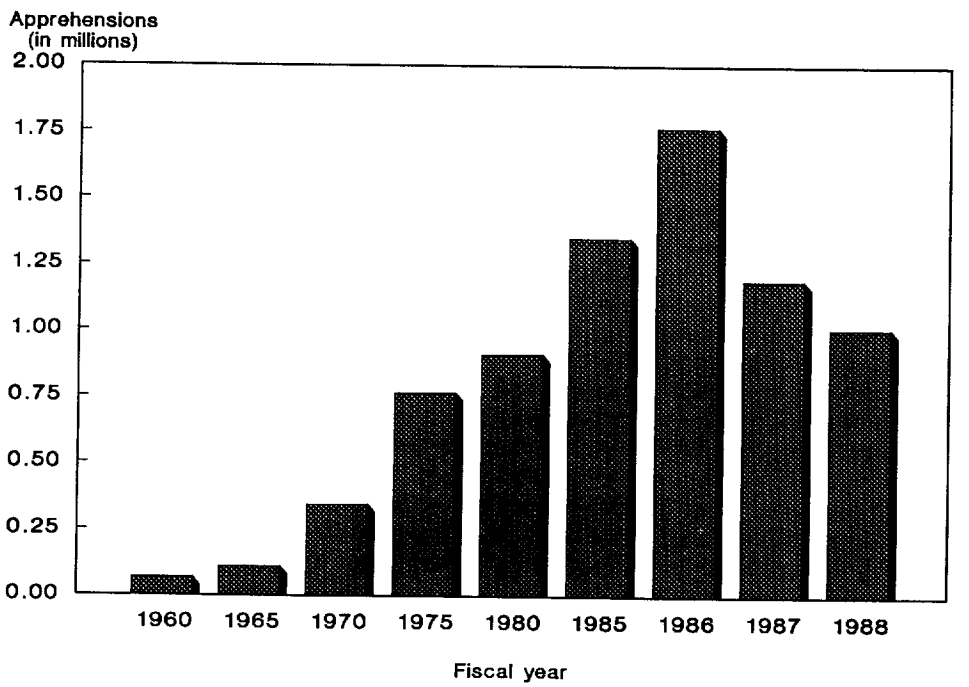
There is a rather strong indication of an upsurge in illegal immigration in the mid-1980's.

It thus is possible that we have had a sizable shortfall in the official estimates of population growth due to the difficulty of estimating the size of the illegal alien component. And because most illegal aliens enter the country to take a job, a substantial underestimation of the increase in their number would inevitably lead to a substantial underestimation of employment growth in the data from the household survey.

A geographic glance. With a few exceptions, the data for individual States show a clear tendency for the payroll employment series to grow at a faster rate than the household series in areas where the demand for labor is strongest. For example, of the 15 States with the lowest jobless rates for 1988 (4.3 percent or below), there were 12 for which the rate of growth in employment since 1983 had been higher as measured through the payroll survey than as measured through the CPS. Conversely, of the 15 States with the highest rates of unemployment in 1988 (6.3 percent or above), 11 showed a slower rate of employment growth in the payroll survey than in the household survey.

This geographic pattern lends support to the hypothesis that the observed divergence in the

Chart 2. **Number of apprehensions of undocumented aliens at or within the U.S. border, selected years, 1960–88**



SOURCE: U.S. Immigration and Naturalization Service.

growth of the two employment series is related to an increase in dual jobholding and to a rise in the net inflow of undocumented workers from abroad. After all, it is in areas with the lowest unemployment rates that a worker who wants to earn some extra money through moonlighting can more easily find a second job. And it is to these areas of strong demand for labor that many immigrants are likely to gravitate in their search for work. □

Footnotes

ACKNOWLEDGMENT: The author thanks John F. Stinson, Jr., a senior economist in the Office of Employment and Unemployment Statistics, who contributed significantly to the preparation of the data for this analysis.

[1] The monthly employment estimates from the Current Employment Statistics program are revised annually to bring them into line with benchmarks (comprehensive counts of employment) for the various nonagricultural industries. The primary sources of benchmark information are employment data, by industry, compiled quarterly by State agencies from reports of all establishments covered under State unemployment insurance laws.

[2] For a discusson of the divergence between the two employment series in the 1970's, see Alexander Korns, "The Difference Between the Payroll and the Household Measures of Employment, 1975–79," *Survey of Current Business*, December 1979, pp. 44–49.

[3] For a detailed description of the definitional differences between the two surveys, see Gloria P. Green, "Comparing Employment Estimates from Household and Payroll Surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

[4] In this adjustment, the following groups of workers are subtracted from the monthly household data: agricultural workers (except those in agricultural services), self-employed nonagricultural workers, private household workers, unpaid family workers, and workers on unpaid absences. These workers fall outside the scope of the payroll survey.

[5] A fourth factor that was also investigated was a possible increase in the employment of 14- and 15-year-olds as wage and salary workers. This would contribute to an increase in the payroll series without having any effect on the household numbers, which are limited to the population age 16 and over. However, an examination of the data showed that, while the *proportion* of 14- and 15-year-olds who are employed as wage and salary workers has indeed increased in recent years, the total number of youths of this age in the population has been declining, and their employment *level* (in absolute numbers) has hardly increased at all. These youths, therefore, could not have contributed much to the increase in payroll employment.

[6] See John F. Stinson, Jr., "Moonlighting: a key to differences in measuring employment growth," *Monthly Labor Review*, February 1987, pp. 30–31.

[7] For a description of this procedure and its results, see Fred R. Cronkhite, "BLS Establishment Estimates Revised to March 1988 Benchmarks," *Employment and Earnings*, June 1989, pp. 6–22.

[8] The 1980 census counts of the noninstitutional population 16 years of age and over turned out to be 3.7 million higher than the official projections for April 1980, the month the census was taken. The Census Bureau subsequently estimated that 1.7 million of these persons were undocumented aliens and that the other 2 million were native-born persons found through "improved coverage"—that is, through better reporting than had been achieved in previous census counts.

[9] For a description of the revision, see Kenneth Buckley, Jennifer Marks, and Ronald Statt, "Revisions in the Current Population Survey Beginning in January 1982," *Employment and Earnings*, February 1982, pp. 7–15.

[10] In constructing the population estimates for the 1980's, the Census Bureau has been assuming that the undocumented alien population has been increasing by 200,000 persons each year. This estimate was arrived at by comparing the increase in the foreign-born population between 1980 and 1983 (as reported in the 1980 census and in a special supplement to the April 1983 CPS) with the net increase in the number of foreign-born persons legally admitted to the country over that period. The excess increase, averaging roughly 200,000 per year, was deemed to consist of undocumented aliens. But it should be noted that the 1980–83 period was one of very high unemployment. The actual increase in the number of illegal aliens in the subsequent years of rapid economic expansion and strong demand for labor in the United States—and of severe strife and mounting economic problems in various countries of Latin America—was probably much higher.