



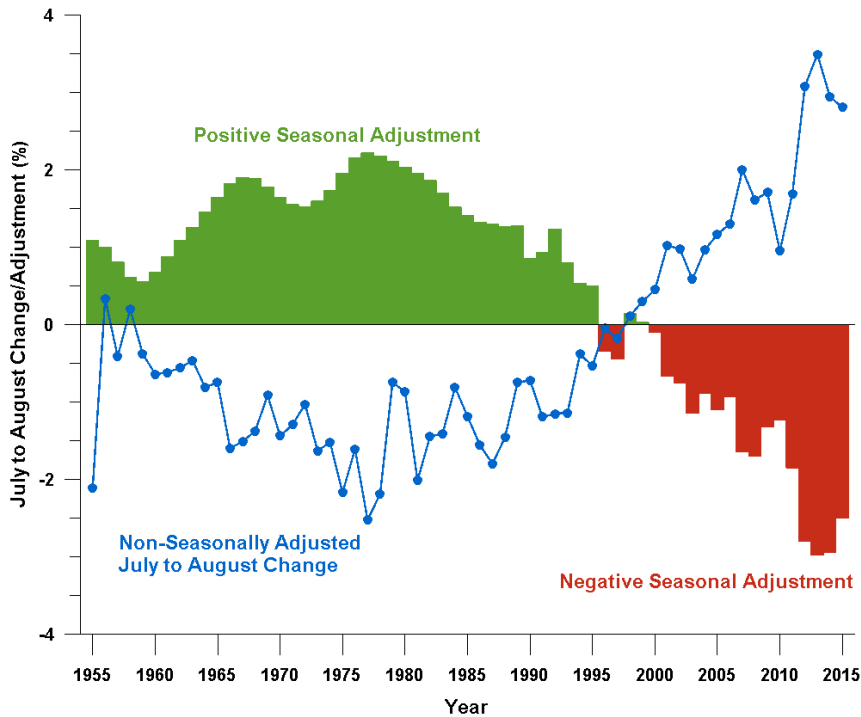
Straight from the Muse

Reflections of a Worldly Philosopher

School Daze

Amending the Academic Calendar

Seasonality Patterns in State and Local Government Education Employment
July to August Changes for the Past 61 Years -- 1955 to 2015



Notes:

The chart was created using data obtained from the Bureau of Labor Statistics' (BLS) Monthly Employment Situation report and data base.

The analysis is based on employment levels in state and local public education (primary, secondary and higher). The chart illustrates the evolving pattern between July to August changes in the number of individuals employed in public education. The blue line graph shows the non-seasonally adjusted (NSA) percent change in public education employment. The percent change is computed from the actual aggregate levels reported by survey districts, cities, towns and other public institutions. As the term suggests, these figures are unadjusted for recurrent annual seasonal trends causing monthly spikes and declines in employment levels.

The green and red bar graphs show the historical magnitude of the seasonal adjustment (SA) made by BLS economists. Seasonal adjustments smooth out spikes and drops in the month-to-month change in employment levels due to recurrent and reasonably predictable trends during the calendar year.

The purpose of presenting the data in this manner is to highlight the two sources of estimation error in the monthly BLS payroll survey. The first arises from an inaccurate or incomplete NSA payroll count. The second occurs because of changing seasonality patterns which are not fully reflected in the statistical model converting NSA levels to SA levels.

(Sources: BLS; Worldly Philosopher estimates.)

Quite a few individuals were dismayed by report is released), I admonish you to sit quietly with your hands folded. And, please do the Bureau of Labor Statistics (BLS) on Friday. For those of you who are counting on a large revision upward (when the September Yes, the firms' survey estimate of 173,000

"What is bureaucracy? An arrangement of individual incompetences for the purpose of general responsibility."

Anton Kuh (1890 to 1941), Austrian Journalist and Commentator

"By continuing a process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens."

John Maynard Keynes (1883 to 1943), British Economist and Political Commentator

"Corporation, n. An ingenious device for obtaining individual profit without individual responsibility."

From the *Devil's Dictionary*

Ambrose Bierce (1842 to 1913?), American Journalist and Writer

Yeah, I am on Twitter too. Follow my sporadic tweets at [my-museclio](#).



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"A good politician is quite as unthinkable as an honest burglar."

H.L. Mencken (1880 to 1956),
American Man of Letters

"Any man can make mistakes, but only an idiot persists in his error."

Marcus Tullius Cicero (BC 107 to 44),
Roman Senator and Political Philosopher

"I am a firm believer in the people. If given the truth, they can be depended upon to meet any national crisis. The great point is to bring them the real facts."

Abraham Lincoln (1809 to 1865),
16th President of the United States

new jobs for August (on a seasonally adjusted — SA — basis) is a disappointment; especially when the whisper number circulating up and down Wall Street was closer to 225,000.

And, to make matters worse, the average monthly revision (for the prior seven months of 2015) has averaged a negative 16 Thousand jobs. Yes, the preliminary estimates for June and July have been revised higher. But not by enough to offset successive reductions in employment gains for the first five months of the year.

A further complication is August and September are peculiar months in the labor markets' annual cycle.

The reason why is simple: School resumes. At all levels of education, kindergarten to twelfth grade, college, graduate school and professional schools, students return to the classroom. Most make this migration from summer vacation over the weeks from mid-August to the days immediately following the Labor Day holiday. Some earlier, some later — but within the next week all will face the blackboard once again.

And, in their wake (or, preceding them), is a wave of part-time and temporary workers. On the elementary, junior and high school levels, for instance, legions of bus drivers, crossing guards, nurses, security guards and cafeteria personnel insure our children get to school safely, are fed while there and are safe from intruders. But when school is out, there is no reason to retain their services. Thus most auxiliary school personnel are seasonal or temporary employees. So when classes resume, the ranks of the employed swell.

State and local governments combined employed over 10.5 Million education related workers in 2014. These public employees account for 7.3 percent of total non-farm payrolls. In the overall U.S. labor market, this group constitutes one of the larger, distinct segments. And, it is a segment which exhibits significant seasonality as well.

In July each year, public education employment reaches its nadir for the year. By October employment levels regain their peak for the academic year. Between June and October about 19 percent of public education

employees go from employed to unemployed and back to being employed again.

For the BLS economists the challenge in estimating public sector education employment is the shifting seasonality patterns. Prior to 1995, the number of public sector education workers continued to decline from July to August on a non-seasonally adjusted (NSA) basis. Historically this pattern required a positive seasonal adjustment. The rationale being, employment has only temporarily contracted. The reduction reflects workers who have been idled as expected, not positions that have been eliminated.

Starting around 1995 many public school districts across the country shifted to an earlier start to the academic year. A variety of factors have pushed the start date forward; a common theme has been the growing parental angst that the school year is too short. As more districts opt for a pre-Labor Day holiday commencement, more workers are recalled to their posts earlier in the season. Now instead of a positive seasonal adjustment, a reduction to the NSA gain is necessary.

For example, this year three of the five largest public school districts in the nation have already commenced the 2015-16 academic year. Only the New York City and City of Chicago school systems (in the top five) will wait until after the Labor Day holiday to begin classes this year.

A further complicating factor is the timing of the Labor Day holiday. The holiday falls on a 7th — the latest date possible in the month. Rather than wait until the second week of the month to resume classes many school systems have opted for a pre-Labor Day start date. This year August 24th appears to be a popular date for students to return to school. In order to accommodate an earlier start, support personnel as well as teachers must be in place before classes resume.

In the August payroll survey public education added almost 31 Thousand positions on a seasonally adjusted basis. This segment thus accounted for almost 18 percent of the 173 Thousand (SA) aggregate gain in non-farm payrolls for the month. On a non-seasonally adjusted basis the segment added 245 Thou-



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sand jobs. For the month total NSA non-farm payrolls rose 258 Thousand. In other words, the return-to-class public education payroll bump accounted for the majority of the month's NSA gain.

The open question is then, How many of these supposed gains are in fact real, net new positions? And, how many really just reflect the effect of an earlier start to the school year? If this second influence predominates, then a large portion of the August education

gain on seasonally adjusted basis evaporates. It becomes merely a shift in September hiring to August.

Hence the reason why I would not bank on a large revision to the August numbers in subsequent months. Yes, private sector payrolls are unaffected by this phenomenon. And, yes, they are in the aggregate larger than the public education gain.

But as we have seen, the seasonality in the public education sector is large and it is

"It will be of little avail to the people that the laws are made by men of their own choice if the laws be so voluminous that they cannot be read, or so incoherent that they cannot be understood."

James Madison (1751 to 1836), American Scholar and Statesman, 4th President of the United States

"The atmosphere of officialdom would kill anything that breathes the air of human endeavor..."

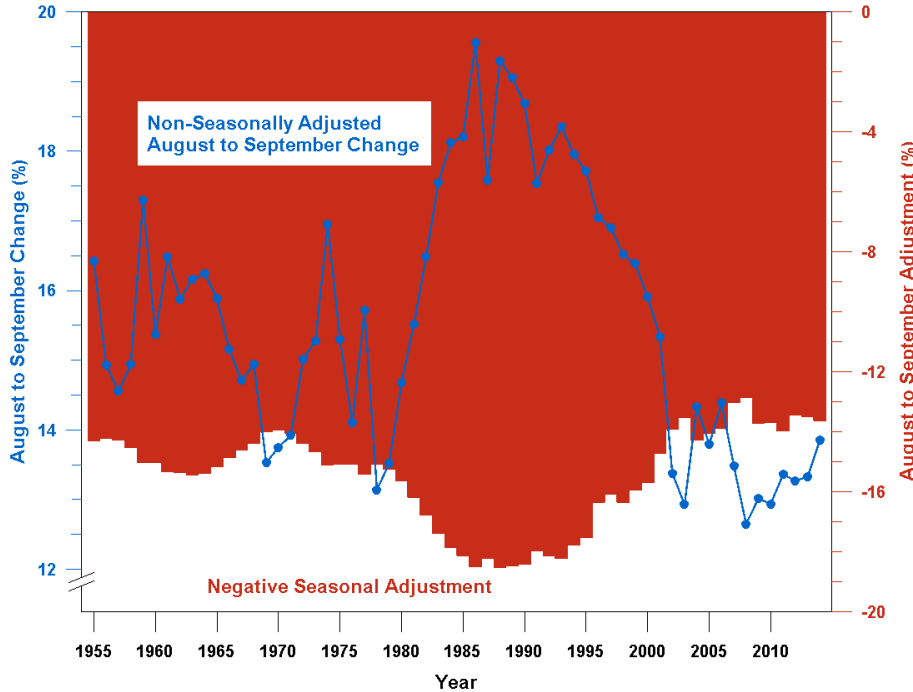
Joseph Conrad (1857 to 1924), British Author

"An unlimited power to tax involves, necessarily, the power to destroy."

Daniel Webster (1782 to 1852), American Senator, Statesman and Jurist

See You in September

Seasonality Patterns in State and Local Government Education Employment
August to September Changes for the Past 60 Years -- 1955 to 2014



Notes:

The chart was created using data obtained from the Bureau of Labor Statistics' (BLS) Monthly Employment Situation report and data base.

The analysis is based on employment levels in state and local public education (primary, secondary and higher). The chart illustrates the evolving pattern between August to September changes in the number of individuals employed in public education. The blue line graph shows the non-seasonally adjusted (NSA) percent change in public education employment. The percent change is computed from the actual aggregate levels reported by survey districts, cities, towns and other public institutions. As the term suggests, these figures are unadjusted for recurrent annual seasonal trends causing monthly spikes and declines in employment levels.

The red bar graph shows the historical magnitude of the seasonal adjustment (SA) made by BLS economists. Seasonal adjustments smooth out spikes and drops in the month-to-month change in employment levels due to recurrent and reasonably predictable trends during the calendar year.

(Sources: BLS; Worldly Philosopher estimates.)



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"It is the highest impertinence and presumption...in kings and ministers, to pretend to watch over the economy of private people, and to restrain their expense....They are themselves always, and without any exception, the greatest spend-thrifts in society. Let them look after their own expense, and they may safely trust private people with theirs. If their own extravagance does not ruin the state, that of their subjects never will."

Adam Smith (1723 to 1790),
Scottish Philosopher

"It is almost as though the universal conversion of political parties to private enterprise and the market has happened only because the state has found itself able to control our lives more effectively through regulation than through ownership."

Roger Scruton (b 1944),
British Philosopher and Man of Letters

volatile. The combination suggests the segment is ripe for revision in the coming months.

Although the earlier start to the school year in many districts (and public colleges and universities) has pushed hiring forward to August, September remains the big month for the surge in education employment during the calendar year. And, as the companion chart illustrates, large negative seasonal adjustments are made to spread the September spike over the other eleven months of the year. But around 1995 the magnitude of the NSA gains has declined; and, correspondingly so has the necessary seasonal adjustment.

Over the next decade (or, longer) the September surge may become more muted. School districts opting for an earlier start will be a force. But the predominant factor will be the adoption of track schedules by more and more public schools.

A track system seeks to utilize existing resources more efficiently by breaking up the student body into different tracks. Each track has a different start- and end-date to the academic year. Attendance is thus staggered with a portion of the student body on a hiatus from school at different times during the year. The Los Angeles Unified School District and Clark County Nevada are two top five (by student body size) systems which have already adopted tracking.

For cash strapped school districts and municipalities the big economy afforded by tracking is the need for fewer buildings. The savings in brick-and-mortar investment and associated financing costs is attractive for systems confronting a rising student body but faced with restive voters who will not tolerate higher property tax bills to defray the cost. Throw in personnel savings, and the fiscal and budgetary arguments favoring track schedules are hard to counter.

Even districts, cities and towns facing a declining student body are tempted to implement tracking. Real economies can be attained by shuttering underutilized schools and transporting students to other facilities. While parents are generally not enthused by the prospect of a local school closing, taxpayers are obviously more receptive — especially,

elderly taxpayers who no longer have children enrolled in the system.

For local political leaders the issue will become more urgent and the debate more strident over the next decade. The Baby Boomer baby "boomlet" peaked in 2010 with 63.0 Million children of school age (between five and nineteen). While the school age population is expected to modestly decline before rising again around 2020, much depends on immigration and fertility. Both spurs have been set back by the impact of the Great Recession in 2008. Current projections may in retrospect prove optimistic, with the school age population shrinking even more than expected.

So going forward the proportion of school aged children will ratchet steadily lower. From a high of 33.0 percent in 1962, the share has steadily declined. So while their absolute numbers have grown, their relative share has plummeted in tandem with an aging U.S. population. In 2015, the proportion of primary and secondary school aged Americans stands just over 19.0 percent.

Just as the relative ranks of students have slimmed so too have the relative share of voters with children in the public school system. Their voices — and their votes — I expect will become drowned out by the cries of other constituents, especially the elderly. If so, tracking will become the norm. And, with its widespread adoption, past seasonal patterns of hiring will gradually fade away until their memory is only kept alive by examples in statistics and econometric textbooks. School year employment seasonality will become as anachronistic as holiday retail sales.

For the moment though Wall Street and the media are dazed by a simple change in the school calendar on the August payroll survey. Perhaps all need to be re-schooled in the statistics of seasonal adjustments.

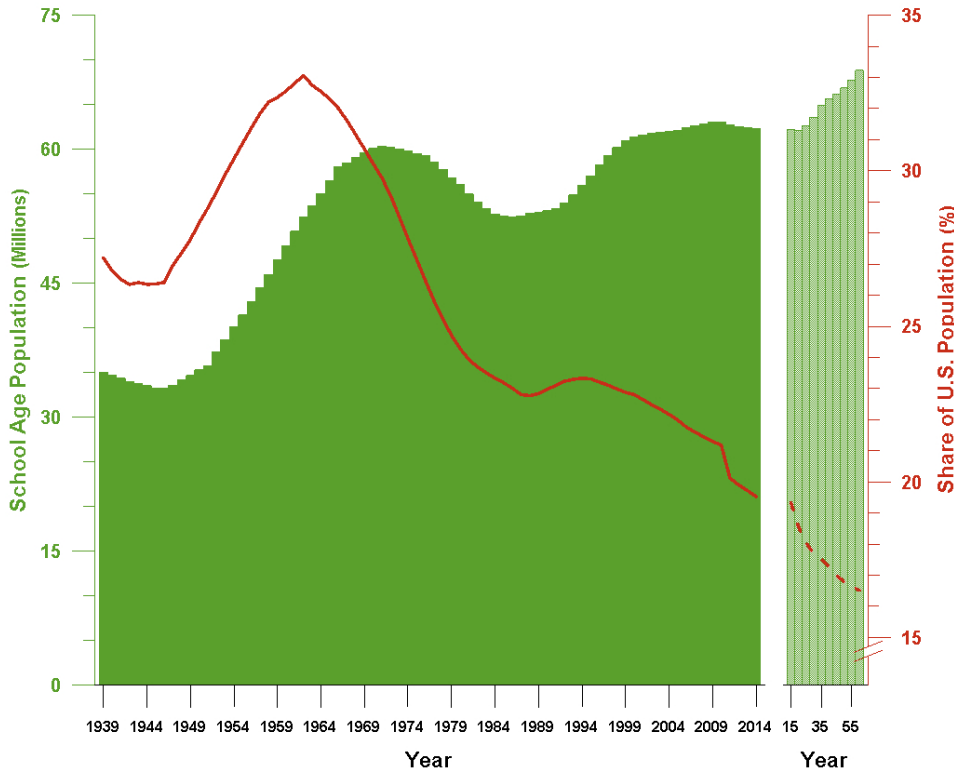


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Youth Fades

Historical and Projected Trends in U.S. School Age Population
 Historical -- Annual From 1939 to 2014
 Projections -- Five Year Increments From 2015 to 2060



School age population defined as children between the ages of five and nineteen years of age. The left hand portion of the chart illustrates historical trends; the right hand segment is based on projected population levels.

Historical data from 1939 to 2010 obtained from the 2012 edition of *The Economic Report of the President* based on Census Bureau estimates. Data for 2011 to 2014 is from the Census Bureau's Current Population Survey. Future projections (2015 to 2060) come from the Census Bureau's Population Division.

(Sources: U.S. Census Bureau; Worldly Philosopher estimates.)

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"The more numerous the laws, the more corrupt the government..."

Publius Cornelius Tacitus (AD 57 to 117), Roman Senator and Historian

"A strong conviction that something must be done is the parent of many bad measures."

Daniel Webster (1782 to 1852), American Senator, Statesman and

"The American Republic will endure until the day Congress discovers it can bribe the public with the public's money."

Alexis de Tocqueville (1805 to 1859), French Political Philosopher