

U.S. NEWS

Why Testing Gray Matter Is Sometimes a Gray Area

Measuring smarts is harder than it sounds. IQ tests are widely accepted measurements of intelligence, but there are many different tests, their content varies, and a person's scores may fluctuate for a variety of reasons. In most cases, the differences won't be extreme.



THE NUMBERS
JO CRAVEN
MCGINTY

But researchers have documented scores for individuals that varied by 10 points in either direction. "It's sloppy, and we know that," said W. Joel Schneider, a psychologist at Illinois State University who blogs about intelligence tests at Assessing Psyche. "It's too big of a concept to measure precisely in a way we can all agree. Think of a cheap bathroom scale. Every time someone steps on it, it's slightly different."

Still, the tests are used to screen children for gifted or special education programs, to determine whether prospective employees are right for a job, whether someone qualifies for certain Social Security disability benefits, and whether someone convicted

of a capital offense can be executed, after the Supreme Court in 2002 ruled it is unconstitutional to execute those who are intellectually disabled.

IQ tests are actually a collection of assessments intended to measure different abilities, such as logic, pattern recognition, verbal aptitude, spatial orientation and short-term memory. But multiple companies publish different tests, and they don't all measure the same thing. Some emphasize certain abilities over others. Some measure fewer abilities than others. And the narrow focus of abbreviated tests often used for screening could make someone look more, or less, gifted than a full test.

"A lot of people think there is this one test called The IQ Test," Dr. Schneider said, "but there are many tests."

Unlike academic achievement tests, which are meant to evaluate what students have learned in school, IQ tests are intended to measure general cognitive ability. A full-scale test could assess seven different abilities or twice that many—there are no hard and fast rules. An abbreviated test might examine only a couple of abilities.



A test of form and spatial relationship understanding circa 1955.

"A lot of people involved in gifted education run into problems with that," said Kevin McGrew, Director of the Institute for Applied Psychometrics and a co-author of the Woodcock-Johnson Battery III and IV IQ tests. "You may have a child with an exceptional ability in a certain area, but it's not measured by the screening test."

Modern intelligence tests

were introduced in France at the turn of the last century to identify children who were likely to struggle in school. The performance of an individual was assessed by calculating the difference between mental and chronological age. An 8-year-old whose score was typical of a 6-year-old, for example, was said to have a mental age that was two years behind.

But mental age levels off after a certain point while chronological age steadily increases throughout life, and psychologists soon realized that expressing the performance as a ratio would be more useful. Within a decade or so, the convention changed. Mental age was divided by chronological age and then, to get rid of the decimal place, multiplied by 100. The result was by definition a quotient, and the score became known as the intelligence quotient, or IQ.

By this measure, an 8-year-old who performed only as well as a 6-year-old would have an IQ of 75, while a 14-year-old performing at the level of a 12-year-old would have an IQ of 86. This was an improvement, but the scoring still didn't work for adults. It doesn't make sense, for example, to relate the mental age of a 40-year-old to that of a 38-year-old.

Today, the term "IQ" is a relic. Individuals are measured against people of the same age on a scale that assumes IQs are normally distributed with an average score of 100 and a standard deviation of 15. (Some tests use a different standard deviation.) Scores are re-

ported with a margin of error. In other words, they are an estimate.

In a normal distribution, two-thirds of individuals will score between 85 and 115. About 95% will fall between 70 and 130. And about 2.5% will fall below 70, the traditional threshold for intellectual disability, or above 130.

IQ tests are primarily used to screen school children for intellectual or learning disabilities or for participation in gifted programs.

Student performance on the best available IQ tests is correlated with academic success, Dr. McGrew said, but he noted that even the best tests explain only about 40% to 50% of school achievement.

"That's a lot in psychology," he said. "But it means 50% to 60% is not related to cognitive ability."

Although no one discounts the importance of raw intelligence, it turns out that qualities such as motivation, determination and a desire to succeed—qualities that IQ tests don't measure—play a significant role in success.

This isn't exactly new information. Thomas Edison once summed it up like this: Genius, he said, is 1% inspiration and 99% perspiration.

JOBS

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Outlook Group consultancy.

Fed officials will have to assess the crosscurrents as they consider making only the second increase to the central bank's benchmark interest rate since 2006. Policy makers boosted rates in December but have since held off amid uncertain risks and volatile markets.

"The question at this point remains, which data point is more telling of the underlying momentum in the economy: an average 1% GDP or an average of 200,000 payrolls," said Lindsey Piegza, chief economist at Stifel Fixed Income. "Until the Fed can answer with confidence, caution will remain the name of the game."

Fed officials meet Sept. 20-21 and again in November and December. For a move in September, Chairwoman Janet Yellen will have to use her speech at the Fed's conference in Jackson Hole, Wyo., later this month to recalibrate investor expectations that are stacked heavily against a rate increase next month. Fed-funds futures, which are used to place bets on central-bank policy, showed Friday an 18% likelihood of a rate hike at the Fed's September meeting, compared with 12% before the jobs report, CME Group said.

Meanwhile, the improvement in the labor market—alongside a stock market hitting fresh records in recent weeks—could tilt some undecided voters as they enter a crucial stretch

Workers Spend, Business Saves

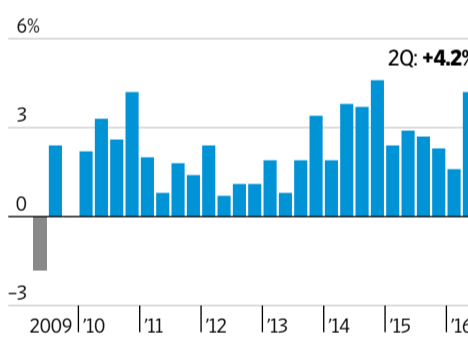
More workers were drawn into the labor force...

Labor-force participation rate



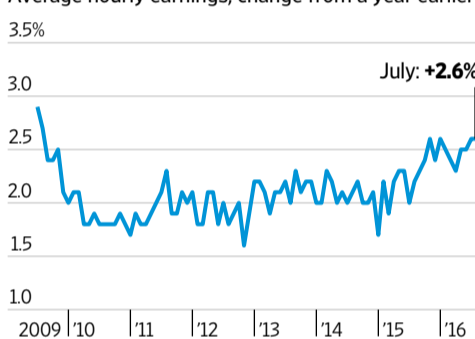
The strong hiring is supporting consumer spending...

Personal consumption expenditures, change from the previous quarter



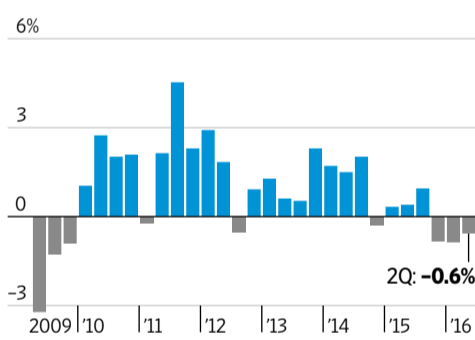
...and wage gains are near a postrecession high.

Average hourly earnings, change from a year earlier



...but running counter to a pullback in business investment.

Nonresidential fixed investment, change from the previous quarter



Sources: Labor Department (participation, earnings); Commerce Department (spending, investment)

THE WALL STREET JOURNAL.

ahead of November's election. Democratic nominee Hillary Clinton's campaign is based in part on President Barack Obama's record, which includes recovery from the 2007-09 recession and the creation of 11 million jobs. "The longest streak of total job growth on record continued in July," said Jason

Furman, Mr. Obama's chief economist.

But the last seven years also mark the slowest expansion since at least World War II, a point the GOP nominee has hit on. "We are in the middle of the single worst recovery since the Great Depression," said Stephen Miller, a senior policy adviser

for Republican Donald Trump.

If labor-market resilience continues, the economy could be poised for faster growth, buoyed by more consumer spending. Average hourly earnings for private-sector workers rose by 2.6% in July from a year earlier. While slower than before the recession, that clip is

Trade Gap Widens on Import Jump

WASHINGTON—The U.S. trade deficit soared in June as Americans boosted purchases of foreign goods, though broader trends portray a sluggish economy.

The trade gap grew 8.7% from a month earlier to a seasonally adjusted \$44.5 billion, the widest in 10 months, the Commerce Department said Friday. Imports increased 1.9% while exports rose 0.3%.

The pickup in both exports and imports offered early signs that international trade, which has slumped over the past year, could be improving. But it also reflected temporary factors—such as a surge in oil prices, which have since retreated—and came against a backdrop of

slowing growth in the U.S.

"Slower growth abroad and uncertainty following the U.K. referendum vote are likely to dampen demand for U.S. exports," Barclays economists said. They said they expect the trade gap to restrain economic growth in the second half.

A wider trade deficit translates into slower economic growth in the U.S. because it means Americans are spending more money on foreign products instead of American goods. But a surge in imports also points to underlying strength of U.S. households, since it means they have enough money and confidence to boost spending.

—Josh Mitchell

the strongest since 2009 and outpacing inflation. The consumer-price index increased 1.1% in June from a year earlier.

Nationwide, another month of hiring was also enough to draw more people into the workforce. The labor-force participation rate rose to 62.8% in July from 62.7% in June. The figure has been hovering near the lowest levels in almost 40 years, partly because the baby boomer generation is retiring but also because some younger workers have given up on finding a job.

One blemish on Friday's report was a rise in a measure of unemployment and underemployment, including Americans who stopped looking for work. The rate rose to 9.7% in July

from 9.6% in June, largely because of a rise in the number of people who were working part-time but wanted a full-time job.

But for those with skills in heavy demand, the market appears robust. Michael Buelts last week started a job as senior digital producer at Karsh Hagan, a Denver ad agency. The 34-year-old said the labor market has improved markedly since his last job search in early 2015, largely because the local economy has heated up but also because of on-the-job experience and project management certifications he added to his résumé.

"I was getting an offer a week to do interviews, and I was able to pick and choose," Mr. Buelts said. "It seems like there are a lot more jobs."

STOCKS

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initial 2016 hole by March and have been led by dividend-paying stocks like utilities and telecom companies.

Stocks are getting a lift from central banks, whose aggressive efforts to stimulate their economies have pushed yields on government bonds near zero or into negative territory. This, in turn, has driven investors looking for bigger returns out of those safe harbors.

"In an environment where people are searching for growth anywhere they can, where are you going to go except for tech?" said Karyn Cavanaugh, market strategist at Voya Investment Management.

The Nasdaq didn't turn positive until July and has lagged behind the S&P 500 and Dow industrials in 2016 after outperforming them in each of the past four years. A stream of better-than-expected earnings by big technology companies has boosted the index by nearly 8% since the end of June. Among the big gainers in recent weeks has been Amazon.com Inc., which struggled early this year.

Meanwhile, tech companies, including Facebook Inc. and Google parent Alphabet Inc., have improved the earnings picture in the second quarter, according to data provider Fact-

Set. With 86% of the companies in the S&P 500 reporting, earnings for the quarter are on pace to decline 3.5%. Analysts polled by FactSet had projected an earnings decline of 5.3% from a year earlier on June 30.

Biotech stocks, another big contributor to the Nasdaq Composite, are also on a tear. The Nasdaq Biotechnology Index, which fell 24% in the first six months of the year, has climbed 16% since June 30.

Since the end of June, financial shares are also outpacing the broader market. It is a marked change from earlier in the year, when fears of a potential U.S. recession, falling commodity prices and low interest rates hurt the sector.

Stocks also have had to shake off a bear market in oil, several consecutive quarters of declining profits for America's biggest companies and sluggish global growth.

That these stocks are now helping lead the gains is encouraging to some investors, who said they view it as healthier for the broader market to be led higher by riskier assets than by companies investors flood into when they are seeking safety.

"I worry when we are making new highs on utilities and telecom, quite frankly," said Jack Ablin, chief investment officer at BMO Private Bank, referring to the two best-performing sectors of 2016. "I'd been looking for leadership to come from the

growth sector of the economy."

To be sure, one risk to the rally is continued strong readings in U.S. growth that could prompt the Federal Reserve to raise interest rates.

"We're in somewhat of a conundrum," Mr. Ablin said. "If growth does advance, interest rates will go up, and low interest rates are one element keeping investors in the market."

Some investors are also concerned that stocks are getting pricey. Shares of Amazon are trading at 191 times the past 12 months of earnings, and Facebook's stock is trading at about

60 times earnings, according to FactSet. The Nasdaq Composite is trading closer to 23 times earnings, slightly above its 10-year average.

Analysts warn that volatility in biotech stocks, whose shares nose-dived last fall when politicians scrutinized drug pricing and fell again at the beginning of the year, could temper the rally.

And despite strong signs of economic health from the July jobs report, there have been hiccups in recent months. Economic expansion in the U.S. remains shaky, underscored by a

weak reading of second-quarter gross domestic product last month.

"For every good data point we've been getting a mediocre one to offset it, so we're bumping along," said Matthew Peron, head of global equity at Northtrust Asset Management. "The market is looking ahead and pricing in profit growth in the next six months. But anything could derail that."

Still, stocks are benefiting from the best of both worlds. Friday's jobs report provided reassurance that the U.S. economy remains healthy, which bodes

well for corporate earnings. But it wasn't strong enough to kindle fears of an interest-rate rise by the Fed.

Investors have been betting on continued support from central banks since the U.K. referendum to leave the European Union in June. The Bank of England on Thursday cut its benchmark interest rate to the lowest level ever and revived a bond-buying program, driving yields on 10-year U.K. government bonds to record lows. In late July, the Bank of Japan unveiled a more modest dose of stimulus than some had expected.

CORRECTIONS & AMPLIFICATIONS

Greenpoint Technologies of Kirkland, Wash., which specializes in building and retrofitting aircraft interiors, was incorrectly referred to as Evergreen in one instance in Thursday's Middle Seat column about luxury jets. Also, China's **HNA Aviation Group** will be the operator of a private Boeing 787 put on display at an aviation conference this year. The column incorrectly said it is the owner of the plane.

New homes priced from about \$900,000 to \$1.5 mil-

lion aren't considered affordable in most U.S. markets. In some editions Friday, a U.S. News article about home building in the San Francisco Bay Area incorrectly said that range would be considered affordable when compared with most any other U.S. market.

In a research study comparing reading postures in nearsighted children, the children's different rates of myopia progression were unrelated to changes in their heights, performing distance

and time spent reading or playing outdoors. A Personal Journal article Tuesday about the study incorrectly said the progression of the children's myopia, not their different rates of progression, was unrelated to these factors.

Baseball Hall of Famer Ty Cobb had 4,191 career hits. In some editions Friday, a table that accompanied a Sports article about Miami Marlins outfielder Ichiro Suzuki incorrectly said Cobb had 1,191 hits.

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THE WALL STREET JOURNAL
(USPS 664-880)
(Eastern Edition ISSN 0099-9660)
(Central Edition ISSN 1092-0935)
(Western Edition ISSN 0193-2241)
Editorial and publication headquarters:
1221 Avenue of the Americas,
New York, N.Y. 10036

Published daily except Sundays and general legal holidays. Periodicals postage paid at New York, N.Y., and other mailing offices.

POSTMASTER: Send address changes to The Wall Street Journal, 200 Burnett Rd., Chicago, MA 01020. All Advertising Published in The Wall Street Journal is subject to the applicable rate card, copies of which are available from the Advertising Services Department, Dow Jones & Co. Inc., 1195 Avenue of the Americas, New York, N.Y. 10036. The Journal reserves the right not to accept an advertiser's order. Only publication of an advertisement shall constitute final acceptance of the advertiser's order. Letters to the Editor: Fax: 212-416-2891; email: wsjletters@wsj.com

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