



ENVIRONMENTAL SCAN

2018 – 19

A working document to support the strategic planning of NACE members.

NACE ENVIRONMENTAL SCAN 2018-19

U.S. ECONOMY

- The U.S. economy was extremely strong in 2018. This was the continuation of the trend that has been in evidence throughout the decade. The past year was the ninth consecutive year of economic growth in the U.S., the second longest such streak in history.
- The growth in 2018 was at an accelerated pace. The GDP grew by 3.4% in the third quarter of 2018 and 4.2% in the second quarter. Since the start of the 21st century, the economy has grown at an annual rate of 1.9%. (Source: Bureau of Economic Analysis - BEA)
- The current overall unemployment rate is 3.9%. (Source: Bureau of Labor Statistics - BLS)
- Wages grew by 3.9% in November 2018 equaling the highest monthly increase since prior to the Great Recession of 2008. The real annual growth rate in wages was 0.5%.
- Despite the strong economic figures from 2018 there are some cautionary indicators pointing to a slowdown in economic growth.
- The stock market saw a decrease in average annual stock value (as measured by the S&P 500 index) for the first time in this decade. (Source: Macrotrends.net)
- The S&P index decreased by 6% in the past year. The average change in the index between 2010 and 2017 was an increase of 10%. (Source: Macrotrends.net)
- The Federal Reserve raised interest rates throughout 2018, which is likely to slow investment activity.
- Media reports indicate that there are significant concerns about slower growth across the industrialized world in 2019. Brexit and the budget crisis in Italy are likely to slow growth throughout Europe. Japan's economy is still stagnating due to population decline. However, the big worry is China where a downturn in consumer spending and the imposition of American tariffs are likely to significantly curtail economic activity.

PUBLIC POLICY

- The midterm elections of 2018 resulted in significant changes to Congressional representation in Washington. While the Senate remained fairly constant with the addition of two Republicans to their slight majority the House of Representatives completely switched over with 40 seats switching from Republican to Democrat. This gives the Democrats control of the house for the first time since 2010 resulting in Nancy Pelosi (CA) becoming Speaker and Bobby Scott (VA) and Tim Maketa (CA) taking over leadership of the House Education and Labor committees.
- The combination of an unorthodox president with an oppositional House is likely to produce chaos for most of the public policy agenda in DC in the coming year. However, some policy initiatives are likely to go forward.
- Government de-regulation through presidential executive order is likely to continue.
- De-regulation has impacted virtually every sector of the economy, including higher education, where the Department of Education has loosened its oversight of the for-profit sector through the gainful employment regulations. However, Secretary Betsy DeVos is likely to confront opposition and intense oversight on for-profit deregulation from the new House Education committee. Rep. Scott has expressed concern over the accountability of for-profit schools.
- One area where significant policy action may be taken is the reauthorization of the Higher Education Act. Sen. Lamar Alexander (R-TN) has announced he will retire in 2020 and he is anxious to complete the reauthorization of HEA. He has a good working relationship with his Democrat counterpart, Sen. Patty Murray (D-WA). Rep. Scott has indicated that he will let the Senate take the initiative on the reauthorization.

- There is likely to be a renewed emphasis to better track outcomes data for college graduates, perhaps as part of the reauthorization. The College Transparency Act sponsored by Senators Hatch of Utah and Warren of Massachusetts was introduced at the end of the last session and will need to be reintroduced in the new Congress with a new sponsor now that Sen. Hatch has retired. However, its prospects have significantly improved because the chief opponent, Rep. Virginia Foxx (R-NC), is no longer Chair of the House Education Committee and in a position to block consideration of the bill.
- Immigration issues will continue to roil Washington. The president's insistence on \$5 billion for wall at the southern border has currently shutdown a portion of the government. Resolution of the dispute may involve compromises that impact DACA students and H1-b visas. In any event, the administration's rhetoric and policies have already had a chilling effect on international student enrollments. A report by the American Association of College Registrars and Admissions Officers found that 40% of U.S. colleges are reporting fewer international applications in 2017. The Institute of International Education reports that, overall, 2% fewer international students have been admitted for the coming year.

TECHNOLOGY

Data are from McKinsey & Company unless otherwise indicated.

- **Work and Automation:** About half of the activities carried out today by workers have the potential to be automated. Worldwide, the hours spent on such activities account for \$15 trillion in wages.
 - Work activities most susceptible to automation are those associated with data collection and processing, and physical activities undertaken in a predictable environment.
 - Least susceptible to automation: managing/developing people; applying expertise to decision-making, planning, and creative tasks.
 - For most occupations, in the mid-term, partial automation is more likely than full automation.
 - 5% of occupations will be fully automated.
 - 30% of the activities in 60% of occupations will be automated.
 - Technology will help create new jobs and opportunities.
 - Historical precedent: Shift from agri-based society to industrial-based society did not result in long-term mass unemployment; new jobs were created.
 - Historical context: One-third of the jobs created in the past 25 years were ones that didn't exist or barely existed, e.g., IT development, hardware manufacturing, app creation.
- **Work and Digital Enablement**
 - Digital talent platforms will better align talent with opportunities.
 - There is already some evidence that such platforms raise labor participation and work hours.
 - Currently, 15% of independent work, e.g., contract, freelance work, is enabled by digital platforms, but rapid advances suggest this will grow.
 - 20 – 30% of the working-age population in the United States and European Union is currently engaged in independent work.
 - Korn Ferry predicts that by 2020, independent contractors could comprise 40% of the American work force.
 - By 2020, the world's population will stand at 7.8 billion, but the number of connected devices will be 26.3 billion.

DIVERSITY

Data are from the Current Population Survey

- The United States is steadily becoming a more diverse population with the traditional white majority shrinking from 72% of the population in 1997 to 61% in 2017.
- The distributional growth among the non-white portion of the population is contained all but exclusively in two groups:
 - Asian-Americans have gone from 3.7% of the population in 1997 to 5.7% in 2017.
 - Hispanic-Americans have shown the greatest increase – 11.1% in 1997 to 18% in 2017.
- By contrast, the proportion of the population represented by African-Americans has remained relatively flat (12.5% in 1997; 12.3% in 2017).
- The percentage of Americans with a post-secondary degree has increased substantially in the past two decades:
 - 31.1% with an associate's degree or higher in 1997 (23.8% with a bachelor's or higher)
 - 44.5% with an associate's or higher in 2017 (34.2% with a bachelor's or higher)
- As with the population as a whole, the population with a post-secondary degree has become more diverse. The percentage of those with an associate's degree or higher that is white has declined from 82.4% in 1997 to 72% in 2017. For those with a bachelor's degree or higher, the percent white has gone from 83.1% to 72.5%.
- Among larger minority groups, Asian-Americans stand out in terms of the percent that have a post-secondary/college degree while African-Americans and Hispanic/Latinos lag considerably behind.
 - 61.8% of Asian-Americans had an associate's degree or higher in 2017 (55.4% with a bachelor's or higher). This compares with only 44.5% of whites with an associates or higher (34.2% with a bachelor's or higher).
 - 34.5% of African-Americans had an associate's or higher (24.2% with a bachelor's or higher).
 - 25.3% of Hispanics/Latinos had an associate's or higher (17.3% with a bachelor's or higher).
- While those with a post-secondary/college degree do better at being employed than do the non-college educated, whites still outperformed minority ethnic groups in terms of the unemployment rate in 2017 regardless of degree level.
 - Unemployment Rate: Associate Degree Holders (25 and older)
 - White – 2.9%
 - African-American – 5.3%
 - Hispanic/Latino – 3.8%
 - Asian-American – 3.4%
 - Unemployment Rate: Bachelor Degree Holders (25 and older)
 - White – 2.2%
 - African-American – 4.0%
 - Hispanic/Latino – 3.3%
 - Asian-American – 2.8%
 - Unemployment Rate: Advanced Degree Holders (25 and older)
 - White – 1.7%
 - African-American – 2.8%
 - Hispanic/Latino – 2.0%
 - Asian-American – 2.7%

COLLEGE LABOR MARKET

Data are from BLS unless otherwise noted.

- The unemployment rate for young (20-24) bachelor's degree holders inched up in 2018 to 5.5% from a low of 5.3% in 2017. These rates are comparable to those recorded in 2006 and 2007 prior to the Great Recession.
- The percent of young (20-24) graduates employed is currently 80.1%. This compares with an annual average of 81.5% in the 1990s and 79.1% between 2001 and 2008 prior to the recession. It is a sharp increase in the percent of young graduates entering the workforce compared to prior years in this decade where the participation rate hovered around 75%.
- The NACE *Job Outlook* survey projects a 16.6% increase in new graduate hiring for 2019, a sharp increase over the relatively flat rates of 5% experienced in the past two years.
- Based on the most recent enrollment data from the National Center for Education Statistics (NCES), there will be 19.0 million bachelor's degrees awarded between 2014 and 2024. Assuming that 81% will be active in the labor market (current level), there will be 15.3 million new bachelor's degree entrants into the job market.
- Based on current BLS projections, there will be 6.8 million entry-level job openings from growth or replacement in occupations requiring a bachelor's degree and no experience.
- BLS projects the following occupations requiring a bachelor's degree with no experience to be the fastest growing over the next 7 years:
 - Operations research analysts
 - Personal financial advisors
 - Cartographers
 - Interpreters and translators
 - Forensic science technicians
- BLS projects the following occupations requiring a bachelor's degree with no experience to have the most total job openings from both replacement and growth:
 - Elementary and secondary teachers
 - Registered nurses
 - Accountants and auditors
 - Software developers and analysts
 - Market research analysts
 - Human resource specialists
- Occupations in which demand is expected to exceed the supply of graduates in the "relevant" major include:
 - Computer science
 - Operations research engineering
 - Environmental engineering
 - Education
 - Industrial engineering
 - Human resources
 - Accounting
 - Nursing
- Occupations in which the supply of "relevant" graduates is expected to exceed demand include:
 - Chemical engineers
 - Electrical engineers
 - Biomedical engineers
 - MIS
 - Mechanical engineers
 - Finance

TALENT ACQUISITION AND MANAGEMENT

- Culture change is extremely difficult, and, with five generations in the work force, employers are working to meet the expectations of a broad range of employees.
- With the rise of the “sharing economy,” increased demands for flexible work roles and the growth of freelancers working multiple “gigs,” many experts predict the work force of the future will be a blended mix of the traditional employee and contingency workers. (Source: Korn Ferry)
- Deloitte reports that 83% of corporate executives rate “careers and learning” as important for their future talent management plans.
- According to LinkedIn, employers are moving toward more personalization in the workplace in terms of benefits, compensation, work location, and overall operations.
- Deloitte’s Global Human Capital Trends study reported that 41% of employers have either implemented or will soon be adopting cognitive and AI technologies, with 35% reporting pilot programs in place.
- Deloitte’s study also contends that there is a need to “rewrite the rules for a digital age.” In particular, two trends relate to analytics:
 - 1) “Digital HR” as it relates to technology-based platforms and the digital work force, and
 - 2) “People Analytics,” using data for determining business strategy and solutions.
 - Other studies by SHRM and LinkedIn confirm that more organizations are looking to expand the use of analytics for work force planning, recruitment, development, and retention.
- Personal assistants, embedded virtual reality, and cognitive technologies have now become mainstream in our daily lives, and will soon be implemented more pervasively within organizations as automated sourcing, hiring, and training tools. (Source: Deloitte)
- According to a SHRM study, one-fourth of employers ranked automated sourcing tools as the top trend shaping the recruiting industry during the next 5 - 10 years.
- Employing organizations are looking closely at the value of augmented reality tools for employee training. (Source: Forbes 10 Workplace Trends for 2017)
- College graduates have engaged in virtual reality games and activities for years and, as a Forbes report tells us, one-fourth of Gen Z and Millennials would like to see companies bring virtual reality into the workplace.
- Building programs and resources for achieving a diverse work force is one of the top three trends for future talent management. (Source: LinkedIn.)
 - 57% of recruiters have focused responsibilities related to diversity recruitment. (Source: SHRM)
 - Among respondents to NACE’s *Recruiting Benchmarks Survey*, 88 percent recruit for a diverse work force.
- A recent study found that approximately 60% of job seekers have had a poor candidate experience. (Source: Workplacetrends.com)
 - The same study found that 70% of employers are investing in the improvement of the candidate experience.
- According to LinkedIn, 72% of job candidates visit the employer’s mobile site to explore employment opportunities.
- Also according to LinkedIn, 45% of candidates are applying using mobile devices; this is likely to increase.
- 68% of responding hiring organizations use social media for branding and recruiting. (Source: NACE *Recruiting Benchmarks Survey*)
 - Just 40% of students reported using it in their job search. These students were mostly likely to use it to research employers, and LinkedIn was the platform most frequently used. (Source: NACE *Student Survey*)
- 95% of employers reported that identifying talent early through internships and co-ops is vital to their college recruiting effort. (Source: NACE *Recruiting Benchmarks Survey*)
- 84% of seniors taking part in NACE’s *Student Survey* cited “opportunity to develop job-specific

skills” as most important to them in an employer/job, making this the top rated preference.

- Job security was cited by nearly as many (83%), followed by opportunity to develop applied skills (81%), friendly co-workers (80.5%), and good insurance/benefits package (77%)

HIGHER EDUCATION

- Institutions are addressing several key trends that will influence strategic priorities as they plan for the future. These priorities will influence employers as they plan for engagement in university programs. Studies produced by higher education association leaders highlight the following areas for special concern and attention:
 - Diversity Enrollment
 - Affordability of Higher Education & Funding the Student
 - Access to Education
 - Skills Gap
 - International Students
 - Graduate Outcomes Data
 - Institutional Performance Metrics
- Overall, according to NACE’s *2016-17 Career Services Benchmark Survey*, operating budgets and staffing for career centers have fallen since pre-recession levels. (See Figures 1 and 2.)

Figure 1: Career Services Operating Budgets, 2017 vs. 2007

Enrollment	2007	2017	2017 in 2007 dollars	% Change in real dollars)
Less than 1,000	25,141	28,739	24,368	-3.1%
1,000 - 2,499	30,866	34,446	30,187	-2.2%
2,500 - 4,999	39,819	43,126	37,794	-5.1%
5,000 - 9,999	70,426	63,450	55,605	-21.0%
10,000 - 20,000	96,581	69,825	61,192	-36.6%
More than 20,000	236,630	189,427	166,007	-29.8%

Figure 2: FTE Professional Staff, 2017 vs. 2007

Enrollment	2007	2017	% Change
Less than 1,000	1.3	2.0	52.3%
1,000 - 2,499	3.1	3.0	-2.3%
2,500 - 4,999	4.0	3.6	-11.3%
5,000 - 9,999	4.8	5.2	8.3%
10,000 - 20,000	7.0	6.2	-12.1%
More than 20,000	11.0	10.6	-3.4%

#####

ADDENDUM: DEMOGRAPHICS

Data are most current available from the National Center for Education Statistics, IPEDS database.

DEMOGRAPHICS

Bachelor's Degree Enrollments

- There were approximately 11 million students enrolled in bachelor's degree programs at more than 2,600 four-year, degree-granting institutions in the U.S. for the start of the 2017-18 year. Undergraduate enrollments decreased by 0.6% in September 2017 compared to September 2016; full-time undergraduate enrollments fell by 0.3% during the same period.
- Demographically, they are distributed as follows:
 - 55.8% Female; 44.2% Male
 - 52.1% White
 - 11.5% African-American
 - 16.8% Hispanic-American
 - 6.3% Asian-American
 - 4.4% International
 - 3.6% Multi-racial
 - 0.6% Native-American
 - 4.4% Race/Ethnicity Not Reported
- Approximately 75.3% or 8,287,000 students were enrolled as full-time students.

Bachelor's Degree Completions

- In 2017, there were 1,955,828 bachelor's degrees awarded, up 2.0% from 2015.
- The top five disciplines in terms of the number of bachelor's degrees awarded were:
 - Business (19.4%)
 - Health Professions (12.3%)
 - Social Sciences (6.9%)
 - Biological Sciences (6.0%)
 - Psychology (6.0%)
- There has been a significant change in the distribution of graduating majors in the past decade plus.
 - The greatest switch has been into Health Professions and Related Disciplines. Health majors have grown from 5.6% of degrees granted in 2005 to 12.3% in 2017 – a difference of 6.7%.
 - No other major saw its share of degrees awarded increase by more than 1.5%. The other academic winners during this period were:
 - Biological Sciences – 1.5%
 - Engineering – 1.4%
 - Recreation – 1.1%
 - Homeland Security – 1.0%
 - Three academic programs stand out in terms of their loss in the share of bachelor degrees awarded. They were:
 - Education – declined from 7.3% of degrees awarded in 2005 to only 4.4% in 2017 – a difference of -2.9%
 - Social Sciences and History – declined from 10.9% to 8.1% (-2.8%)
 - Business – declined from 21.6% to 19.4% (-2.2%)
 - The distributional changes suggest a mixed and perhaps a somewhat uniformed response to outcomes. By virtually any account, the academic program that has experienced the best outcomes (employment and salary) has been Computer Science. The distributional share of bachelor degrees awarded for Computer Science has remained virtually unchanged since 2005 – 3.8% in 2005; 3.7% in 2017. By contrast, First-Destinations has consistently pointed to Biological Sciences as one of the weakest programs in terms of overall outcomes. However, this has been one of the strongest growth areas in completions.