

The Perfect Storm

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The Perfect Storm

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This analysis and initial priorities for action are shared in a series of monographs and visual presentations available at the Council's website, www.csctulsa.org.

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The “Perfect Storm”

*Surviving and possibly even thriving will require
a dramatically new framework of thinking.*

We have no choice.

The Community Service Council of Greater Tulsa, Inc. provides leadership in community based planning and mobilization of resources to address health and human service needs in much of Eastern Oklahoma. During the past several months, the Council has analyzed a wide view of global, national, and local developments, their interfacing with each other, and their possible impact on the future. This analysis will help guide the Council's strategic thinking for itself and for the broader community.

The analysis reveals that the developments and forces in play are so powerful and numerous that it is likely a “perfect storm” effect may be imminent or possibly upon us in some aspects. This conclusion led the Council to additional study which indicated researchers focused on an individual critical issue (e.g., education, labor force, aging, immigration, food and water supplies) commonly predict some version of a “perfect storm” of unprecedented challenges affecting their particular critical issue. Based on these predictions, the Council took a second, closer look at this storm effect, which will possibly be comprised of converging, individual perfect storms and concluded we may be in for a “super” perfect storm.

Understanding the magnitude and relevance of this phenomenon and its significance to the Council's work and the Tulsa community is the Council's most critical step in its long range planning. The second step would be a new framework of thinking, based on the likely results of the anticipated perfect storm.

The Sources of the Storm

Storms do not just happen. They are derived from certain causal forces that determine their location, strength, and extent of damage. Tornadoes are caused by warm and moist air colliding with eastward moving cold fronts. Tsunamis or tidal waves come from earthquakes under the sea, or very unusual alignments of the sun and moon. A hurricane comes from a combined effect of warm water, moist warm air, and colliding winds over tropical waters. Water surges from hurricanes, also can cause tidal waves.

Reports on storms, especially memorable ones, always focus on catastrophe, financial ruin, family separation, homelessness, and physical and mental trauma. Little attention, however, is given to the sources of the storms, and what to do, if anything, about them.

Clearly, the best opportunity to mitigate the catastrophic aftermath of not just one, but a collection of storms, is to identify the storms' sources and understand how they interact and contribute, individually and in combination, to the aftermath.

The Converging and Interacting Sources of the Perfect Storm

Each source listed, as suggested by leading researchers and authors from wide ranging fields, is a problem of such magnitude that it could create its own "perfect storm."

However, the convergence of all the sources together will be the most complex and powerful phenomenon and the most difficult problem to prepare for. This convergence is what we are most challenged and threatened by, and must prevail over. It presents a special urgency for a prompt, successful response.

The "Big Eight" Sources of the Perfect Storm:

Lack of living wages for the huge population of unskilled/low-skilled persons and the growth in income insecurities...related to the loss of manufacturing jobs due to technology, outsourcing, increased productivity, etc. This source is closely linked to America's significant growth in income and wealth inequality that has emerged during the past 30-40 years.

Current and growing workforce shortage...related to need for filling skilled jobs (plumbers to accountants to nurses to electricians to teachers to high tech manufacturing to human resource managers) due to increased retirement of the large group of educated, trained baby boomers, and the need for highly skilled jobs of the future, many of which have not even appeared yet. It also relates to the need for lower-skilled jobs in the "hard work" or "physical labor" sector of the workforce, and the tremendous future need for "caregiver" jobs (child care workers, home care/health aides, nursing home aides).

Rapid aging of the population...related to unprecedented historic increase in persons over age 65 and over age 85. This source will predominantly shape future financial, political, economic, and social dynamics of our society.

Growing challenges to assure healthy lifestyles and access to quality health care...related to preparing and sustaining a smaller, more productive workforce, supporting the growing aging population and the increasing numbers of persons with disabilities, and the restructuring of health care financing to meet the needs of the masses.

Continued growing immigration...related to its impact on all aspects of American life—education, culture, politics, health care, economy, etc. Immigration will be the most critical factor shaping our overall population growth.

Rapidly changing environmental conditions...related especially to those affecting water and food supplies. Changes in global demands, shifting concentrations of people, and sources of supply will greatly complicate this source.

Increasing uncertainty on our future supply of energy...related to where it will come from, how we will pay for it, how safe will it be, and who will lead the way. This source will shape the stability of all aspects of life.

Growing challenge to the American culture...related to a better understanding and acceptance of what it means to be an American and of the challenges of our time that must be faced for the country to thrive. We are participants in a global economy, rather than a national economy, which makes it more difficult to develop a national purpose and a commitment to the common American good. As a people we must assure a national citizenry which focuses more on a strong democracy rather than the consumption of goods and services.

The Key Dimensions of Change Determining the Intensity, Scope, and Duration of the Storm and Its Sources

The intensity, scope, and duration of the sources of the Perfect Storm are largely determined by the inter-connected dimensions of change (James, 1996) that are so powerful overall in shaping all aspects of the future. They create the framework for making sense of the bigger changes underway including the sources of the Perfect Storm, the Storm itself, and what is likely to happen next. These dimensions are: disorienting demographic patterns; revolutionary technology; intense economic shifts, especially related to globalization; and disruptive cultural pressures and transformations.

Selected Sources of the Perfect Storm: Key Findings



Millions of boomers are turning 60, many with a sense of resignation and resistance to aging and the dreaded word retirement. Birthday cards made for this time in one's life mock the aging process. They remind a person how far they are from childhood and closer to infirmity and death.

Yet, the insurance industry recently revamped its actuarial tables to reflect lifespans that now top-off at 120.

AGING OF THE POPULATION

Prolonged Aging of the Population, an Unprecedented Global Change

The world is entering into a prolonged, perhaps permanent, aging of the population. 1965-70 was the peak of the global population growth rate increase, followed by a continued decline in the growth rate and an increase in the proportion of older people.

The growth rate decline mostly reflects decreasing fertility rates, especially in developed countries. As the world overall becomes more prosperous, this decline will become even greater. Today's large proportion of young people in developing countries will eventually start declining (within 30-40 years), setting the stage for even greater increased aging worldwide.

Globally, long life spans will triple the numbers of persons aged 60 or more from 606 million in 2000 to nearly 1.9 billion in 2050. Because of their larger aggregate populations, 80% will live in developing countries as compared to 60% in 2000. In 2050, 265 million of the world's 377 million people 80 years plus also will live in the less developed world.

Aging trends will fuel great debate worldwide about definition of "old" and related political, financial, social, and other historically significant implications.

Aging currently is most pronounced in Japan and several European countries. By 2050, the median age is projected to be 54.9 years in Japan and 49.6 in Europe, as compared to 41.1 in the U.S. and 38.1 worldwide.

Tremendous Increase in Life Expectancy and in Population of Persons Over 85 in the United States

- The life expectancy at birth increased from about 45 years in 1840, to just over 65 years in 1940, to 78 years in 2004.
- Persons who were 50 years old in 2004 on average could expect to live just past 80.
- Women who were 50 could expect to live to 83.
- One of the fast growing segments of the population is persons over 65. In 2006, there are an estimated 37.2 million persons over 65, as compared to 25.5 million in 1980 and 31.0 million in 1990.
- The number of persons 65 years and older in 2020 is projected to be 54.6 million, and in 2030, 71.4 million.
- In 2007, it was estimated that 473,800 persons were 85 years and older. By 2030, this group is projected to be 757,000.



The growing pattern of international migration has caused drastic demographic changes that affect our entire civilization.

The impact of migration is permeated throughout the world and the need for effective migration policies that harness its positive effects and ameliorate its negative impact is paramount.

(Global Economic Prospects: Migration and Remittances, World Bank, 2006)

A WORLD OF UNPRECEDENTED RACIAL AND ETHNIC DIVERSITY DRIVEN MAINLY BY IMMIGRATION

Migration is a Natural Phenomenon Deeply Rooted in the History of Mankind, Focused on Economic Survival, and Made Easier through Advancements in Communication and Transportation

Migration has occurred as long as mankind has existed. Scientific consensus infers that mankind began in Africa and since then has spread throughout the world forming civilizations as territories were claimed and inhabited. In a world that cannot any longer be thought of as a group of regions, countries or continents but rather as a single unit, migration is unavoidable. Globalization and technological advances particularly in the areas of transport and communication have made the movement of people more feasible than ever before.

Variation in income equity around the world, and the desire of new generations to seek better economic opportunities abroad, have caused an increase in international migration. According to the World Population Monitoring report prepared for the United Nations Commission on Population and Development (2006), by the end of 2005, the number of international migrants—those living outside their country of birth—was about 191 million or 3% of the world's population.

The great majority of these international migrants are concentrated in about 28 countries, most of which are developed countries with the greatest economic opportunities. Breakdown by largest areas of concentration by continent reveals that 34% of all migrants reside in Europe, followed by Asia, 28%, and North America, 23%.

Recent Trends in Migration Driven Largely by Reasons of Family Reunification and Employment

During recent years, the global refugee population has dropped significantly from almost 20 million in 1990 to 13.5 million in 2005 (United Nations, 2006). This phenomenon may be indicative of the fact that some long-standing conflicts in several regions of the world have been resolved and refugees have been able to return home.

Family reunification continues to be the number one reason for migration requests submitted, especially in Europe and North America (United Nations, 2006). However, in an effort to control the migration stream, some countries have recently implemented new legislation that limits the admission of immigrants on the basis of family reunification.

Employment-based migration has experienced a surge in recent years, driven by the high demand of both highly skilled and low skilled workers (United Nations, 2006).

Global Migration Has Important Effects on Countries of Destination

In the area of employment and wages, migrants represent an essential demographic sector that revitalizes countries with growing aging populations. According to the United Nations' World Populations Prospects (2006), the population in developed regions will hardly change and will age considerably. Projections estimate that by 2050, 26% of the industrialized nations' populations will be 65 years of age or older. This expected decline in popula-

tion and labor force will increase dependency ratios in the next several years.

Fertility rates have dropped in every major world region but are the lowest in developed countries. The impending labor force shortfalls of many developed nations can be ameliorated by the constant flow of migrants from developing countries, who would replenish needed manpower and contribute to the overall economic health of the receiving nations (U.S. National Intelligence Council on Global Migration, 2001).

Even in European countries that have experienced a temporary surge in unemployment because of increased migration—mainly due to the fact that wages are vastly regulated and not as flexible—the overall long-term effect was a positive one. Increased migration led to increased consumption, which in turn raised labor demand and economic growth (United Nations, 2006).

Another important effect of migration on the host country is the initial strain on public services—health, social, education—which can deeply affect the local infrastructure especially in less developed countries (U.S. National Intelligence Council of Global Migration, 2001). According to simulations developed by the World Bank (2006), the impact of migrants' use of public goods and services is revenue neutral, meaning their level of consumption equals the amount they pay in taxes.

To some extent, migration can also have important political and social effects. Many concerns surround the integration of migrants into the culture of the host country and the possible loss of cultural identity and unity (World Bank, 2006). Policies must strike a balance between successful integration and welcoming diversity of migrant populations.

Immigration into the United States Critical to Overall Population Growth and Cultural Change, Especially Due to Increased Hispanics

Between 1966 and 2006 the U.S. population grew by 100 million people, the net effect of births and deaths, immigration and emigration. Overall, immigrants and their U.S. born offspring accounted for 55% of the increase in population.

A number of factors determined the rate of growth, including changes in the U. S. immigration law in 1965,

1986, and 1990, steady improvements in life expectancy, and decreasing fertility levels.

From 1966 to 2006, according to population projections from the Pew Hispanic Center, the Hispanic population increased from 8.5 million to 44.7 million. Thus, growth in Latino population, due largely to higher fertility rates than the remainder of the population, accounted for just over one third of the population growth in the U.S. during this 40 year period.

According to the U.S. Census Bureau (2005), the nation's foreign born population—documented and undocumented—reached a record of approximately 35 million or about 12% of the total population, which is still proportionally lower than the 14% share immigrants represented in 1910.

When discussing immigration issues in the United States, most of the debate focuses on one ethnic group: Hispanics, given their sheer numbers and their effect on overall population change. Much controversy surrounds the issue of illegal immigration. The Center for Immigration Studies (2007) estimates that 12 million immigrants in the U.S. are undocumented and the large majority (57%) of this population is from Mexico and Latin America (24%). Clearly, Hispanic immigrants have changed the landscape of American demographics and culture.

Hispanic Growth Increasingly Tied to Native Born Second and Third Generations

Hispanics make up the largest minority group in the U.S. at approximately 46 million or 15% of the population (Pew Hispanic Center, 2007). These numbers represent not only first generation Hispanic immigrants but also the U.S. born children of immigrants and subsequent generations.

Immigration Having Huge Impact on Employment in the United States Based on Significant Demand for Legal and Illegal Immigrant Labor

Undocumented workers fill about half the jobs in America that meet these criteria: less than a high school education is required, and the jobs are not in industries (such as healthcare, banking, and local government) which enforce worker documentation requirements

aggressively. According to the Pew Hispanic Center, 55-60% of these undocumented workers are in formal employment and are paying Social Security taxes. About 3 million of the 7.2 million illegal workers are in occupations in which undocumented workers account for at least 15% of total employment in that occupation. These include construction labor (25%), cooks (20%), maids and housecleaners (22%), and grounds maintenance (25%). Among roofers, 29% of the total workforce is estimated to be undocumented workers.

What is the economic impact of the illegal population in U.S.? A Texas study says that illegal immigrants' household payments of consumer and property taxes (via rent or home ownership) exceed by about 30% the taxpayer burden for education, healthcare, and incarceration.

MIT professor David Autor projects that mental and

manual jobs involving a level of irregularity in decision making and face to face servicing are growing. This concept explains why some manual jobs are expected to grow in the future along with the growth of high end mental jobs. Low skilled immigrant labor fills many of these manual jobs. About a quarter of residential construction workers and landscaping workers are undocumented workers alone; on top of that one needs to add documented immigrant workers.

In regard to higher skilled jobs, fully one half of computer systems engineering jobs in America are filled by foreign born workers. Indians alone own 50% of all economy hotels in the U.S. Ten percent of doctors are foreign born; of these, close to half are from India. There are 40,000 Indian physicians in the U.S, or about 4% of all doctors. The nursing profession is 11% foreign born.



CONDITIONS AFFECTING THE HEALTH OF THE POPULATION

Life Expectancy is Greatly Increasing

Life expectancy has increased in most industrialized nations due to improved water and sewer sanitation, improved drugs to kill infectious diseases, and improved technology.

- The median age in years for the U.S. will grow from 35 years in 2000 to over 40 years in 2050.
- The median age in years for Spain will grow from 33 years to 54 years, and in South Africa from 24 years to 32 years in the same timeframe.
- For the continents, the median age for the world has grown from 23.9 years in 1950 to a projected 30.3 years in 2050. In Africa the median age has changed from 19.1 to 18.7, in Asia from 22.2 to 33.1, in Europe from 29.7 to 49.6, and in North America from 29.8 to 40.2 years from 1950 to 2050.

- Life expectancy in the U.S is 45h (out of 180) from the top in comparison to other nations.

Fertility Rates Significantly Impact Global Dynamics

Fertility rates refer to the number of women giving birth. The fertility rates imply the number of replacement children a family may have. To replace the existing population a fertility rate of 2.10 is necessary. Women in industrialized nations are having fewer children. Implications of decreased fertility are the lack of support for the aging population, increased need for immigrant populations to meet work force needs, and increased value on children's health.

- The fertility rate of women in the U.S. is 2.06, the United Kingdom is 1.73, and Italy is 1.20.
- By continent, from 1950 to 2007, Asia has reduced fertility from 5.9 to 2.4, the Middle East and North Africa from 6.9 to 3.0, Europe from 2.7 to 1.5, and North America from 3.5 to 2.0 respectively during the same time periods (United Nations, World Population Prospects: The 2006 Revision, 2007).

Causes of Death Vary Greatly Worldwide

The causes of death in the world are different based on location.

- In developing countries, the causes of death are related to infectious diseases (tuberculosis, malaria, hepatitis, HIV/AIDS, cholera, diphtheria, dysentery).
- In the industrialized nations, chronic diseases (heart disease, cancer, diabetes, tuberculosis, HIV/AIDS, Hepatitis B and C) are the major causes of death (Long Term Global Demographic Trends, 2001).
- In the U.S., the top three causes of death are heart disease, cancer, and stroke. All three can be reduced by life style improvements (exercise and diet), stress reduction, and access to preventive health care.

Infant Mortality is a Key Indicator of Overall Health Conditions

Infant mortality rate, or the risk of death during the first year of life, is often used side-by-side with life expectancy to determine how well the health of a nation is improving. Infant mortality can be significantly affected by the mother's health, availability of prenatal and pediatric care, public health care practices (vaccinations, etc.), and socioeconomic conditions.

In 2004 the top three leading causes of infant mortality in the U.S. were (1) congenital malformation, deformations, and chromosomal abnormalities; (2) disorders related to short gestation and low birth weight; and (3) Sudden infant death syndrome (SIDS).

Since 1958, the infant mortality rate has decreased or remained level, with the exception of 2002. The increase in 2002 was due to a change in definitions, in particular a change in classification of infants by weight.

The infant mortality rate of the U.S. is 6.3 (2005) which ranks this country 32nd in the world and 29th among industrialized nations, with Iceland being the best at 2.9 (World Health Organization, 2007).

Health Expenditures are Growing Rapidly But Not Spread Evenly

The U.S. spends more per capita (\$6,401 in 2005) on health than any other nation in the world and spending continues to increase at an alarming rate.

Internationally, the industrialized nations which contain approximately 19% of the world's population account for about 85% of the world's health care expenditures. By contrast the Asia/Pacific region accounts for 25% of the world's population, but only spends about 2% of the health care monies.

Even when comparing the health care expenditures to the gross domestic product (GDP), the U.S. is the highest spender and has been for some time at an average of 15%.

The top three health care expenditures are hospitals, doctors, and prescription drugs.

The Cost of the Uninsured is Big and Will Get Bigger

With health care costs on the rise, most people require aid in offsetting the costs of medical care and hospitalizations. People who are uninsured are far more likely to put off treatment and "live sicker and die younger" than those with insurance (Uninsured in America, 2005).

The U.S. is the only industrialized nation in the world lacking universal health care access.

In the year 2000, the World Health Organization (WHO) released a World Health Report on the state of health systems in its 191 member countries. The report was based on three overall objectives: good health, responsiveness, and fair financial contribution.

- **Good health** was determined based on infant mortality, adult mortality, life expectancy, and disability-adjusted life expectancy (DALE), as well as other factors.
- **Responsiveness** included respect for the dignity of the patient, confidentiality, autonomy in choices, prompt attention, adequate and clean amenities, access to social support, choice of providers, etc.
- **Fairness in financial contribution** is defined as "the risks each household faces due to the costs of the health system are distributed according to ability to pay rather than to the risk of illness: a fairly financed system ensures financial protection for everyone."

Compared to other WHO member countries, the United States ranked 24th based on the DALE ratings. However, when compared to other high income industrialized nations, the U.S. was next to last, with only Denmark ranking lower (28th).



The history of the U.S. labor force is a story of dramatic change. The rippling effects of the massive demographic changes that occurred within the U.S. population over the latter part of the 20th century will create further changes in the first half of the 21st century. The labor force—the number of non-military people 16 years and older either working or looking for work—is a dynamic concept that demonstrates the net impact of all the demographic, social, political, and historical forces affecting the population. The growth and composition of the labor force are main ingredients of economic growth and prosperity.

SHIFTS IN WORKFORCE, EMPLOYMENT, AND INCOME

Overall Labor Force to Grow Slowly

- Growth of the U.S. labor force is largely tied to population growth and growth in labor force participation.
- The U.S. labor force is projected to grow by almost 1% each year from 147.4 million in 2004 to 162.1 million in 2014, which is 20% slower than 1994 to 2004 and over 30% slower than 1984-94.
- The labor force is projected to grow even more slowly at 0.5% per year from 2014 to 2050 with a total growth to 194.8 million. Many other countries also expect to experience decreasing labor force growth.

Overall U.S. Labor Force Participation Rates to Decrease Slightly

The labor force participation rate is the percent of the population aged 16 years and older that is in the labor force.

The rate is expected to decrease slightly from 66.0% in 2004 to 65.6% in 2014 because the large portion of the population called the baby boomers, those born between 1946 and 1964, will move from an age group with a higher participation rate (40 to 58 in 2004) to an age group with a lower participation rate (50 to 68 in 2014).

The labor force participation rate is expected to continue to decrease to 60.4% in 2050 due to increased life expectancy and most of the baby boom echo cohort—the large group born between 1977 and 2000—having moved into the age 55 and over category.

Given the large number of persons currently in the labor force and part of the baby boom age cohort, any significant change in thinking and practice regarding continuation in the labor force among this group could greatly impact the overall labor force participation picture.

Labor Force to Age Rapidly and Significantly

The labor force will age dramatically over the upcoming years due to the aging of the baby boomers. They will be between 50 and 68 in 2014; the percent of the labor force aged 55 years and over was 16% in 2004 and is projected to be 21% in 2014.

The labor force will continue to age slightly from 2014 to 2050 even after the baby boomers exit the labor force, due to older people working longer because of increased life expectancies and the existence of the baby boom echo cohort. Almost 28% of the labor force will be 55 years or older by 2050.

The aging of the overall population is even more dramatic than the aging of the actual labor force.

Labor Force to be Much More Racially and Ethnically Diverse--the Most Significant Overall Change

The labor force will increase in diversity, with non-white races increasing their projected share of the labor force by 9 percentage points from 18% in 2004 to 27% in 2050. The major source of this increase in diversity is immigration of both Hispanics and Asians.

Almost 70% of the labor force was white non-Hispanic in 2005. This group is projected to be 51% of the labor force in 2050.

Hispanics are projected to increase from 13% of the labor force to 24% during the same period. Asians are projected to increase from 4.4% to 8.3%.

Many economists and financial researchers note the critical connection between immigration policy and the economy, especially the labor force. Clearly the projected growth in Hispanic labor force participation in coming decades, much of which will be due to second and third generation "legal" residents, is critical to our economic growth.

Labor and Talent Shortage...or Not

There is much being written expressing concerns about a coming crisis in the workforce beginning as soon as now or by 2010. The crisis relates to several different dimensions including:

- Not enough skilled workers to replace highly skilled retiring baby boomers
- Not enough workers period to do low skilled or high skilled jobs, due to lack of work ethic, soft workplace skills, or basic workplace experience
- The pending rapid retirement of much of our workforce at all levels of education, which weakens the potential to rapidly create needed higher skill jobs in demand now and those to come that have not even been developed yet
- Not enough younger people interested in science, math, and other higher technical skills critical to assuring a competitive economic position globally
- Lack of commitment, capacity, and know how to engage large numbers of the growing, racially and ethnically diverse younger population in greater college and other post-secondary successful experiences
- Lack of labor force to fill ongoing need for "hard work sector" (physical laborers).

Matching Reality of Jobs and Wages Picture with Labor Force...A Must Do, Detailed Task

Assuring a strong workforce requires understanding trends affecting not only the labor force but also the changing employment and wages environment. A clear and accurate understanding of each can best lead to the most effective match between the labor force and the array of available jobs and projected future jobs. The jobs and wages picture has several different dimensions as described in the following key points.

Projected Overall Growth of Employment

U.S. employment was roughly 145.6 million in 2004 and is projected to increase 13% from 2004 to 2014 to 164.5 million. Consequently, 19 million new jobs are expected to be added to the U.S. economy. This growth rate roughly equals the growth rate experienced from 1994 to 2004 and is slightly higher than the 11.9% growth rate expected for Oklahoma. Oklahoma's employment is expected to grow from 1.7 million in 2007 to 1.8 million in 2014.

The 145.6 million U.S. jobs are filled by 138 million people 16 years or older, implying that about 7 million people hold multiple jobs. The state to grow the fastest, Nevada, is expected to grow much faster than all other states.

Educational Attainment

The large majority of jobs of the future will not require a college education or even some college. "Aiming to prepare 100 percent of students for the 40 percent of society's jobs that require college skills makes good politics, but bad economics, and it will create a lot of disappointment." This does not mean college education does not have value beyond meeting job requirements.

The share of U.S. jobs filled by people with a college degree is expected to increase from 24% in 2004 to 26% in 2014. This change is because the percentage growth in the number of jobs for those with a college degree (19% from 2004 to 2014) is expected to exceed this percentage growth for those with less education (13% for those with some college and 10% for those with a high school degree or less). Jobs for those with a high school degree or less currently rep-

resent almost half of overall jobs (68.5 million of 145 million total). These jobs are expected to have a slightly larger numeric increase from 2004 to 2014 (adding 6.9 million of the total 18.9 million new jobs) than jobs filled by people with college degrees (6.7 million).

Occupational Groups

Across the 10 major occupational groups, the two groups expected to have the largest numeric and percentage change from 2004 to 2014 are Professional and Related Occupations and Service Occupations, which are on the opposite ends of the educational attainment and earnings spectrum. These two groups comprise about 40% of the total 145 million jobs (58 million) in 2004, about 20% each. The remaining occupational groups or 60% of the employment include a variety of occupations with a large portion (30%) coming from two areas, Office and Administrative Support and Sales and Related Fields.

Professional and Related Occupations are expected to add 6 million jobs, and Service Occupations are anticipated to add 5 million jobs through 2014. Together the two groups will account for 11 million of 19 million new jobs.

Average hourly earnings are almost \$30 for Professional and Related Occupations and \$11 for Service Occupations. Most of the jobs (54%) in the Professional Occupations are in education and health care. Most of the jobs (59%) in Service Occupations are in food preparation and related serving fields, building and grounds maintenance, and lower paying personal service workers like home health aides and child care workers.

Detailed Occupational Group

The 30 detailed occupational groups with the largest numeric change, adding about 8.8 million jobs, overall tend to be less-skilled, low-wage jobs such as retail salespersons and customer service representatives, while the 30 groups with the largest percentage growth tend to be higher-skilled, high-wage jobs such as physician assistants and data communications analysts.

The 30 detailed occupations with the largest percentage growth tend to be very different from the occupations with the largest numeric growth.

Twenty-two of the 30 are in the some college or the college educational attainment cluster. Sixteen of these 30 occupations are health-related, which reflects an aging population that requires more health care.

While these mostly higher skilled jobs are predicted to grow by almost 40 percent from 2004 to 2014, they only account for 2.8 of the 19 million new jobs. Although these jobs are growing quickly, they are not growing by a large number, and obviously their base number in 2004 is much lower than the lower-skilled jobs.

Industry Group

The long-term shift from goods-producing to service-producing employment is expected to continue with Professional and Business Services—such as legal, accounting, administrative and support services—and Health Care and Social Assistance—including private hospitals, nursing and residential care facilities, and individual and family services—being the major industry groups projected to account for almost half of the numeric growth from 2004 - 2014. These two groups also fall right behind Educational Services in leading percentage growth.

Wages and Benefits

Inflation-adjusted wages for those with college degrees are likely to continue their historical rise while those for workers with some college or more are likely to continue to stagnate or even decrease, although there is some evidence in recent years that the differential in wages for a college degree may be slowing. The stagnation of wages of workers with less education has several causes, including the shift of available less-skilled jobs away from high-wage manufacturing to lower-wage service industries, a decrease in unionization, a relative decrease in demand for less-skilled workers, and erosion in the value of the federal minimum wage. Employers are less likely to provide health care and pension coverage for their employees than they used to be, even in jobs requiring college degrees. For those who still receive coverage, they are often paying a larger share of costs, in the case of health care, or have lower quality pension plans.

What's Next?

A New Framework of Thinking

As the perfect storm effect makes clear, our communities, our country, the entire world are in a period of huge transition, moving from an era of considerable familiarity to another of great unknowns. Some challenges related to the individual sources of the storm which we will confront during this transition have been coming at us for awhile and others are new. But all the challenges are historically unique and formidable in their scope, importance, and discomfort; for example:

- Find new sources of energy while best conserving what we have.
- Meet the needs and opportunities of the age wave tsunami
- Assure a strong workforce, while replacing the skills and experience of the aging baby boomers, and meeting the growing uncertainties of a global economy
- Adjust our culture, civic life, and democratic system to best flourish in an increasingly diverse world
- Assure continued availability of water, food, and other resources given our dramatically changing environmental conditions and growing population
- Develop leaders and an informed citizenry which will be critical for a successful response to these and other challenges

This is quite a list and that is just the start. Clearly, even the very best of our thinking will be tested as we respond, especially as these challenges rush toward us, not separately, but collectively, all at once, and for years to come. It is the magnitude effect of the interfacing of all the sources and related challenges from which the coming storm derives its perfection.

The historical importance of this situation we face was noted at a recent Tulsa Town Hall lecture in Tulsa, Oklahoma, by renowned University of Oklahoma History Professor, Dr. Rufus Fears, who declared that today could be compared to 1776, 1861, and 1941 in terms of seriousness and significance to our country's future.

Any transitions of great proportion and complexity are extremely difficult, and test the adaptive nature of our human capabilities. As cultural anthropologist Jennifer James notes, "We can teach the mind and body to adapt but it is a tough assignment. The key is the ability to think in new ways... We are changing faster than any other generation of Americans. The changes are deep and broad. Each of us will be asked to think in new ways. Yet the body and mind automatically resist significant changes."

And so, prevailing over the perfect storm will severely test us all as it will require first, and most importantly, that we build a 21st century mind and character founded on new framework of thought. What are the new realities we must accept, the new assumptions about daily life, our expectations of ourselves and others? What new thinking skills must be acquired to deal with the complexity and rapidity of change? What are new sacrifices to be made and new opportunities for success? What are priorities for getting started? Who will be the leaders to get us started and assure are efforts are sustained? Will you be one?

Answering these and many other questions is the critical beginning as we establish a new, cognitive framework in order to ensure that we survive and prevail over the perfect storm.

The enormous, initial cost however, and one we all must pay is the "timeout" we must take from our everyday deadlines and duties, in order to give the storm the respect and attention it deserves. If we don't pause and prepare for this storm, we will most certainly experience its full fury.

We really have no choice.

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