For those who take advantage of change, it’s a powerful ally. For those who fail to understand or exploit it, change is a deadly enemy.

Nowhere is that more clear than in the labor market. The hurricane-force winds of demography, technology, and psychology are sweeping away the safe assumptions of the past and leaving behind a whole new reality.

Let’s start with the most fundamental of all economic concepts: productivity. From a labor standpoint, productivity is defined as the value of the goods and services created per hour of labor.
input. America’s productivity soared 4.3 percent in the second quarter of 2008, while labor costs fell at an annual rate of 0.5 percent.¹ This was a pleasant surprise because many economists had begun to worry that inflation would be triggered by increases in wages.

Since early 2007, the economy has been stuck in a period of slow growth with inflation pressures confined to the prices of energy and food. As we’ve explained earlier, the economy continued to avoid recession quarter-by-quarter because of rising productivity.

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In many industries, companies are deploying robots and automating jobs that were once done by human workers. Manufacturers have used automation to boost their productivity for decades. But, it wasn’t until the 1970s that it began to transform service businesses like gas stations, where electronic pumps allowed drivers to fill their own tanks, and banks, where ATMs let customers withdraw cash and make deposits without the help of a teller.

More recently, the Internet has empowered people to make travel arrangements, trade stocks, and create their own music playlists. Now, many retailers are adding self-checkout lanes. All told, millions of customer service jobs are being “outsourced” to the customer through automation.

Before long, even more cashiers will lose their jobs as RFID tags will be used in most stores at point-of-sale checkouts. Sensors will detect purchases and automatically charge the customer’s credit card. Shoppers will save time, while merchants, like Wal-Mart, Target, The Home Depot, Kroger, and Safeway, will cut their costs and lower their prices as they reduce their payrolls even further.

This is only the beginning. According to the Robotics Industry Association, companies increased their spending on robots by 27 percent during the first quarter of 2008.² When these machines are installed, they will not only eliminate more service jobs, but they will give manufacturers the ability to keep making products in America rather than sending them to India, Malaysia, or China.

Specifically, which sorts of jobs are most endangered by technological progress?

Let’s start with inspectors, testers, sorters, and samplers in the manufacturing world. Many companies now use self-monitoring production machines, which alert inspectors to flaws they would normally detect by hand. According to the Bureau of Labor Statistics, these jobs will decline 7 percent between 2006 and 2016.³

Data entry and information processing jobs are also expected to decline by 7 percent. One of the biggest factors in this decline is that personal computers and user-friendly tools make it cost-effective for nearly everyone to do their own word processing rather than hiring full-time clerical staff. Technologies such as barcode scanners and voice recognition systems also reduce the need for people who enter data.

As organizations use automated systems to place orders and most files are stored and retrieved electronically, the need for file clerks is expected to decline 41 percent.

Similarly cell phones and 411 call services have reduced the demand for telephone operators, because fewer people use directory assistance, collect calls, and pay phones. The demand for operators is expected to decline by 45 percent.

Interpreted in isolation, it would appear that technology is rapidly leading to massive unemployment. But that’s far from the case.

McKinsey and Company predicts that over the next three decades the demand for experienced IT professionals between the ages of 35 and 45 will increase by 25 percent, while the supply will decrease by 15 percent.

Although a shortage of tech workers has been a problem for decades, the situation is now more dire because of soaring
demand by a wide range of businesses, from IT-makers like Microsoft to insurance firms and local hospitals. The BLS estimates that 1 in 19 new jobs created in the 10-year period ending in 2016 will be a professional IT position.

According to the BLS, 854,000 professional IT jobs will be added between 2006 and 2016, an increase of about 24 percent. When replacement jobs are added in, total IT job openings over the 10-year period are estimated at 1.6 million.

But while the demand for IT workers is growing, the supply is dwindling. The Computing Research Association’s annual survey of universities with Ph.D.-granting programs found a 20 percent drop this year in students completing bachelor’s degrees in professional IT fields, continuing a trend seen for several years.4 Worse yet, enrollment in undergraduate degree programs in computer sciences is more than 50 percent lower than it was five years ago.

And, it’s not just IT jobs that are being created by the advance of technology. Today, engineering positions are the most difficult jobs to fill for U.S. employers.

According to Manpower Inc.’s 2008 Talent Shortage Survey, the 2,000 U.S. firms responding ranked engineering positions as the most difficult jobs to fill. Machinists and machine operators, as well as welders and carpenters were also in short supply.

Beyond technology per se, the major reason for rapidly growing shortages is demographic. For example, fewer college students are pursuing computer-related degrees at a time when demand for these skills is increasing and thousands of baby boomers are retiring from technical jobs every month.

These colliding trends are making it harder for companies to find enough workers needed to maintain their expected growth.

At the heart of the problem is the fact that 70 million U.S. baby boomers will exit the workforce in the next 15 years if they follow the pattern of their parents, meanwhile only 40 million people will enter the U.S. workforce. The BLS predicts that in 2010, there will be 52 percent more people in the 55-to-64 age bracket than there were in that age group in 2000.

Organizations will face significant knowledge losses because of retirements over the coming decade. If that happens, we’ll see the most serious dissolution of intellectual capital in our history, jeopardizing the continued productivity growth.

However, 80 percent of today’s 76 million baby boomers plan to keep working in the future, and more than half of them are interested in pursuing new careers, according to a Merrill Lynch survey.

Fortunately, as the Trends editors have been predicting for over 20 years, Americans are changing the game plan for retirement. Already millions are laboring right past the traditional retirement age and working into their late 60s and beyond.

Growing evidence documents that people are working longer as they live longer. Twenty-nine percent of people in their late 60s were working in 2006, up from eighteen percent in 1985, according to the BLS. Nearly 6 million workers last year were 65 or over. During the next decade, the number of 55-and-up workers is expected to rise at more than five times the rate of the overall work force.

We expect this trend to accelerate as baby boomers close in on retirement without sufficient savings. In an April survey conducted for AARP, 27 percent of workers aged 45 and over, and 32 percent of those 55-64, said they had pushed back their planned retirement date because of the economic downturn.5

That group is largely made up of what McKinsey & Co. calls U-Boomers, or Unprepared Boomers.6 They are the breadwinners of 24 million middle-class American households. Today, they are approaching retirement with lofty lifestyle aspirations, but limited financial resources. That cohort of financially unprepared baby boomers will account for almost 25 percent of total U.S. consumption by 2015.
According to McKinsey, Unprepared Boomers are the largest segment of the baby boomer generation. They are economically sandwiched between the 10 million “well-to-do households” who are well-prepared for a comfortable retirement, and the 11 million “disadvantaged households” who are deeply pessimistic about the future.

Many of these U-Boomers are precisely the kind of people who possess the intellectual capital that firms desperately want to keep. And they know that the longer they delay retirement, the better they will be financially.

Another factor making the retention of both the well-to-do Boomers and U-Boomers critical is the rapidly growing shortage of executives. Surprisingly, the economic slowdown in the United States is not having the expected effect on the demand for qualified executive talent. ExecuNet’s “2008 Executive Job Market Intelligence Report” finds that increasing demand, along with a shortage of qualified talent and sustained economic growth overseas are driving strong job growth at the executive level.

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The sectors with the highest demand for executive talent are high tech, healthcare, business services, pharmaceuticals, and energy. As with IT, engineering, and highly skilled manual labor, the demand for executive talent is driven largely by the aging of the workforce. But beyond that, global economic growth is playing a crucial role.

Despite the fact that the U.S. economy will probably eliminate many temporary and entry-level jobs in the first half of 2009, the recruiting and retention of executive-level talent remains a high priority. More than two-thirds of HR professionals say the war for executive talent has intensified over the last year, amid increasing economic uncertainty. So, it’s not surprising that 71 percent of search consultants say their clients are “less focused on age than they were in prior years.”

Unfortunately, even firms that have the executives they need in place are finding that they are restless. Approximately 40 percent of all employed executives report they are “not satisfied with their current jobs.” Boredom and a lack of advancement are the most cited reasons for their unhappiness.

This restlessness and lack of commitment is not limited to the executive suite. The global consulting firm BlessingWhite recently released a landmark study on the State of Employee Engagement. For the purposes of this study, they defined “engaged employees” as those who are “excited” and use their talents and discretionary efforts to make a difference for their employers.

BlessingWhite found that in North America, only 29 percent of employees were fully engaged, while 19 percent were actually disengaged.

Interestingly, in the Asia-Pacific region, 34 percent of Indian workers were engaged, while just 10 percent of Chinese workers said they were engaged.

They also found a strong correlation between employee engagement and retention. Specifically, 85 percent of engaged employees expected to stay with their employer through 2008. More importantly, engaged employees say they stay because they like their work, while disengaged employees stay for reasons like job security, favorable work conditions, and growth opportunities.

The study also revealed that the sectors most vulnerable to a lack of employee engagement are information technology, media, retail, hospitality, and healthcare. The current downturn provides firms in these industries some time to improve the engagement of their employees. But, if they fail to take advantage of this opportunity, they will become victims of significant turnover, particularly among younger workers.

One increasingly common way to engage older workers who might otherwise retire is to offer part-time, flex-time, and contract work. Part-time work is particularly appealing for boomers who want flexibility in their schedules or who cannot find full-time employment. Many find that a part-time job keeps them physically, mentally,
and socially active, while allowing them to experiment with new work roles, without the demands of a 40-hour work week.

It fits the U-Boomers particularly well, since many of them want to retire, but can’t do so because they’re financially unprepared to leave the work force. For the first time since they were teenagers, part-time work may be financially feasible. For them, some combination of Social Security, a pension, and a 401(k) covers a major fraction of their income needs. Plus, Medicare provides health-care benefits that previously had been affordable only through a full-time job. So the income and benefits of a part-time job are perfect for them.

So, where do things go from here? Based on the picture we’ve just presented, the Trends editors offer the following five forecasts:

First, the American workplace will become increasingly focused on “hard-to-offshore” information-intensive activities and the services needed to support the people who perform those activities. We’re already seeing a dramatic global division of labor, in which less knowledge-intensive activities migrate to the developing world and the highest skilled activities cluster in the developed world. For example, highly automated factories will continue to thrive in the U.S. and provide jobs for highly-skilled tradesmen and technicians. The developing world will also harbor islands of information-intensive work, like Bangalore and Singapore. Similarly, the United States — which is home to over half of the world’s global corporations — will act as a magnet for executive talent and will remain the world’s de facto corporate headquarters. Retailing and services will stay strong as they serve the needs of the knowledge-intensive value creators.

Second, constant growth and reskilling will be necessary for those who want job security and a good income. Most jobs will require increasing technical skills. Firms will fight hard to attract younger tech graduates, retain seasoned professionals with deep knowledge, and continuously reeducate everyone in order to maximize their productivity. Companies and individuals who are complacent with today’s skills will be tomorrow’s victims.
Third, American companies will only maintain their global dominance by attracting the best and the brightest from around the world. With over three-quarters of the world's best universities and a uniquely entrepreneurial culture, the United States has long been the first choice of the world's top scientists and engineers. Even with retention of a high percentage of Boomers and the constant re-education of younger employees, firms will still need to make every effort to acquire the intellectual resources needed to maximize their potential.

Fourth, the unprecedented multi-generational/multi-cultural workplace of the coming decade will require companies to move away from a one-size-fits-all approach to management. With employees ranging in age from 18 to 80 and coming from a wide range of cultural backgrounds, the most successful companies will be those that treat employees as individuals. This tends to favor small autonomous operating units acting in concert with a corporate hub that provides scale economies and world-class support functions.

Fifth, as automation and globalization shift the makeup of the American economy, U.S. immigration policy will become far more selective. Ph.D.s, MDs, and MBAs from around the world will be aggressively sought. However, as the shortage of low-skilled laborers is addressed by technology, physical and administrative barriers will make it harder for less-skilled immigrants to enter the country. This will be good news for less-skilled Americans, but less so for potential immigrants and employers in industries that are difficult to automate.

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Resource List:

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5. To access the AARP Work and Career Study, visit their website at:
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6. FORBES.COM, April 3, 2008, “Make Way for the U-Boomers,” by David Court and Diana Farrell. © Copyright 2008 by Forbes Publishing, Inc. All rights reserved.

7. To access the ExecuNet report “2008 Executive Job Market Intelligence,” visit their website at:

8. For more information about the BlessingWhite report on employee engagement, visit their website at: