

Southwest Economy

Opting Out of Work: What's Behind the Decline in Labor Force Participation?

The labor force participation rate—the share of the adult population that is working or looking for work—has been declining in the United States in recent years.¹ The downward trend has generated concern among some economists and policy-makers. The economy grows by adding workers or increasing productivity (or both). Barring other changes, a decline in the share of the population that is economically active translates into a lower rate of economic growth.²

Another worry is whether more-vulnerable groups are participating disproportionately in the decline. For middle- and high-income families, less attachment to the labor force may simply reflect a change in priorities or increasing wealth and may not have adverse consequences. For low-income families, on the other hand, dropping out of the labor force can bring about financial distress, lower future earnings and a greater dependence on welfare programs.

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A New Barometer for
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*Getting a Jump on
Texas Employment
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Yuan Diplomacy

The National Economic Outlook: Continued Growth Likely

Most analysts believe that Hurricanes Katrina and Rita—for all their terrible effects on coastal communities in Louisiana, Mississippi, Texas and Alabama—will have no major lasting impact on overall U.S. economic activity. In its September policy statement, the Federal Reserve System's Federal Open Market Committee, while acknowledging Katrina's possible near-term adverse effect on spending, production and employment, argued that hurricane-related disruptions and uncertainties "do not pose a more persistent threat."

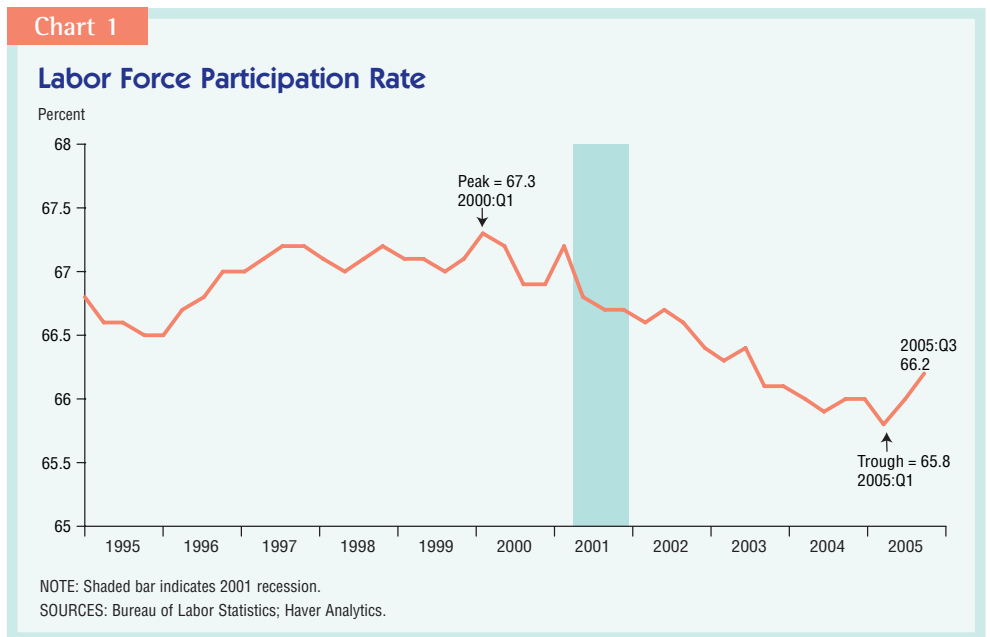
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This article discusses the factors driving recent trends in labor force participation. Given that participation rates started to turn around in 2005, there is less concern about long-run trends than there was in the beginning of the year. Nonetheless, the experience in recent years has been unusual. We focus on how gender, age and education groups have fared in the recent past and discuss the role of cyclical variation versus long-term trends in participation among these groups.

The Recent Decline in Labor Force Participation

Chart 1 illustrates the recent decline in the labor force participation rate. The rate fell from its peak of 67.3 percent in first quarter 2000 to a low of 65.8 percent in first quarter 2005. Since then, participation has risen slightly, reaching 66.2 percent in the third quarter. The 1.5 percentage point drop between the peak in 2000 and the trough in 2005 stemmed from the fact that the adult civilian population rose faster than the labor force. The labor force rose by 5.9 million workers over this period, or 3.8 percent (the U.S. labor force currently stands at about 150 million workers). In contrast, the adult civilian population grew by 13.5 million, or 5.9 percent.

Table 1 breaks down this change in the overall labor force participation rate for gender, age and education categories. Within each category, the groups are weighted by their share of the adult



population so that the sum of the groups' differences over time equals the total change in participation for that category. Note that negative numbers in the "total change" row do not necessarily mean that the participation rate fell for that group. To illustrate this point, the total change is decomposed into two parts: (1) the difference in labor force participation that is due to an increase or decrease in the group's share of the adult population, and (2) the difference due to a change in the group's propensity to participate in the labor force.

For example, as Table 1 shows, males

and females contributed equally to the decline in participation between the peak and trough periods (both subgroups contributed about -0.7 percentage point). Over this period, however, men increased as a share of the adult population, while women decreased. Hence, the population component is positive for men (0.2) and negative for women (-0.2). The decomposition further shows that holding population shares constant, participation rates fell more for men (-1.0) than for women (-0.6).

By age category, young workers (ages 16 to 24) and prime-age workers

Table 1

Contributions to the Labor Force Participation Rate in Peak and Trough Periods

	Gender		Age			Education			
	Male	Female	16-24	25-54	55+	Less than high school diploma	High school diploma, no college	Some college, no bachelor's degree	Bachelor's degree
Peak (2000:Q1)	36.0	31.3	10.3	47.9	8.8	7.0	21.4	18.6	20.6
Trough (2005:Q1)	35.3	30.5	9.6	45.5	10.5	6.7	20.2	18.4	21.5
Total change	-.7	-.7	-.7	-2.5	1.7	-.3	-1.3	-.1	1.0
Change due to									
population composition	.2	-.2	.1	-1.5	.5	-.5	-.6	.1	1.5
Change due to labor									
force participation rate	-1.0	-.6	-.8	-.9	1.1	.2	-.7	-.2	-.5

NOTES: Data are seasonally adjusted. Contributions are weighted according to each group's population share. Within each category, such as gender for example, the groups' contributions sum to the total participation rate. Some numbers do not add up to total due to rounding. The data by education are for individuals ages 25 and over.

SOURCES: Bureau of Labor Statistics; Haver Analytics; authors' calculations.

(ages 25 to 54) both contributed to the total decline, with -0.7 and -2.5 percentage points, respectively. Prime-age workers' contribution to total labor force participation change was driven largely by their declining share of the adult population (contributing -1.5 percentage points to the total change). Older workers (ages 55 and over), on the other hand, increased their participation rate as well as their share of the population and contributed 1.7 percentage points to the overall change in this period.

Among education groups, contributions to the participation rate were negative for all groups except college graduates. Weighted participation fell the most for high school graduates (-1.3 percentage points), followed by individuals who lack a high school diploma (-0.3) and those with some college but no bachelor's degree (-0.1). Despite the positive contribution of college graduates to the total change in labor force participation rate (1.0), the participation rates among college graduates actually fell in this period by 0.5 percentage point. College graduates' contribution was positive because they grew as a share of the adult population.

Cyclical Factors by Group

Both cyclical (temporary) and long-term (permanent) factors influence the changes in labor force participation rates illustrated in Table 1. First, let us consider

the cyclical component. The 2001 recession and the jobless recovery that followed led to a lower demand for labor, which in turn resulted in layoffs, higher unemployment and lower real wage growth relative to the late 1990s. These cyclical developments are partly to blame for some individuals' exit from the labor force during the post-2000 period and affected some groups more than others. Aside from different demand-side factors influencing group behavior, such as a disproportionate effect of the recession on skilled workers in information technology, the groups identified in Table 1 are also characterized by different supply-side sensitivities to cyclical changes.

To better illustrate each group's sensitivity to the business cycle, Table 2 shows simple correlations of quarterly real gross domestic product (GDP) with leads and lags of the labor force participation rate. To isolate the cyclical component of output and participation, the trends are removed from the logs of GDP and labor force participation rate before taking the correlation.³ In addition, the standard deviation (volatility) of each group's labor force participation rate is noted. The data cover first quarter 1948 through first quarter 2005, except for the education groups, which are annual observations from 1970 through 2004.⁴

While employment is typically a coincident indicator, meaning it changes

simultaneously with economic output, the unemployment rate is a lagging indicator, meaning it changes after output has changed. Given that labor force participation is a combination of employment and unemployment, we would expect it to be a slightly lagging indicator. This means that changes in GDP today should be more highly correlated with participation rates in the near future than on current or past participation rates. We also expect participation rates to be pro-cyclical, or positively correlated with economic output, as economic expansions are characterized by greater labor demand.

As seen in Table 2, workers who traditionally have had less attachment to the labor force—women, young workers, older workers and high school dropouts—have more volatile labor force participation in general. Standard deviations, shown in the first column, are much higher for these groups as compared with males and prime-age workers, for example, and correlations with GDP are lower. Males' labor force participation rates are less volatile and more closely correlated with economic output; the largest correlation coefficients are between 0.42 and 0.47 in the three quarters following a change in GDP. Female participation rates, on the other hand, have a maximum correlation with GDP of about 0.31 after three quarters. Table 2 therefore suggests that participation rates are pro-cyclical—positively correlated with

Table 2

Cross-Correlation of Real GDP With Leads and Lags of Labor Force Participation Rate by Group

	Volatility (percent standard deviation)	4-period lead	3-period lead	2-period lead	1-period lead	Contemporaneous	1-period lag	2-period lag	3-period lag	4-period lag
Labor force participation rate for:										
Total	.39	0	.04	.10	.18	.26	.35	.36	.38	.36
Male	.30	-.02	.05	.11	.19	.29	.42	.45	.47	.43
Female	.76	0	.02	.08	.16	.23	.29	.29	.31	.27
16–24	1.13	.04	.09	.17	.25	.34	.40	.38	.35	.28
25–54	.27	-.06	-.07	-.05	.07	.19	.30	.32	.39	.40
55+	.85	.04	.09	.09	.05	-.02	-.01	-.02	.01	.01
Less than high school	1.27	-.30	-.07	.13	.14	.23	.35	.26	.09	-.19
High school, no college	.76	-.29	-.28	-.30	-.11	.24	.39	.31	.11	-.02
Some college	.86	-.23	-.13	-.07	.15	.35	.22	.17	-.10	-.21
Bachelor's degree	.36	.03	.12	.14	-.13	-.14	.01	.01	.15	-.08

NOTES: All data (except the education groups) are seasonally adjusted, quarterly, span 1948:Q1–2005:Q1 and are correlated with quarterly GDP data. Data by education groups are annual, span 1970–2004 and are correlated with annual GDP data. The maximum correlation between labor force participation and GDP is in bold type for each group.

SOURCES: Bureau of Labor Statistics; Bureau of Economic Analysis; Haver Analytics; authors' calculations.

The results seem to suggest that college-educated individuals are both less responsive to business cycles and have less volatile participation behavior generally.

economic output—and that the strongest correlation for males and females is between GDP today and participation two and three quarters from today. This supports the contention above that labor force participation decisions respond to changes in economic output with a slight lag.

Among the age groups, the highest correlations with economic output are among the young and prime-age workers. Interestingly, the participation behavior of older workers is essentially uncorrelated with GDP (the correlation coefficients are close to zero). This suggests that structural or long-term factors, rather than cyclical or temporary changes, drive the work decisions of older people.

Young workers have participation decisions that are the most correlated with GDP after a one-quarter lag (0.4), while prime-age workers have a maximum correlation with output after a three- and four-quarter lag (0.39 and 0.4, respectively). The responsiveness of youth to changing labor market conditions reflects both the types of jobs they take and their financial dependence on their parents. Generally, younger, less-experienced and less-skilled workers take entry-level jobs characterized by high turnover (quick hiring and firing). In addition, given that about half of youths ages 16 to 24 are enrolled in school and many are financially dependent on their parents, one would expect their participation behavior to be more elastic. They have the lux-

ury of working more in good times and less in bad times to a greater extent than older workers, including their parents.

The evidence on the cyclicity of the education groups is also interesting. With the exception of the college-educated, each education group demonstrates significant pro-cyclical participation behavior with maximum correlation coefficients at or above 0.35 occurring in the same year or with a one-year lag of GDP. The education data are annual (not quarterly as above) and cover workers ages 25 to 64. The results seem to suggest that college-educated individuals are both less responsive to business cycles and have less volatile participation behavior generally. This finding is sensitive to the time period selected, however.⁵

Long-Term Trends by Group

As mentioned above, both short- and long-term factors feed into the changes in labor force participation. For groups with highly cyclical participation behavior, short-term factors have been important in driving rates down in the recent past and driving rates up so far this year. Other groups have been largely unaffected by cyclical changes. In this section, we discuss long-run trends in labor force participation by age, gender and education categories. These trends also shed light on how participation rates are likely to evolve in the future.

Participation by Age. Chart 2 shows

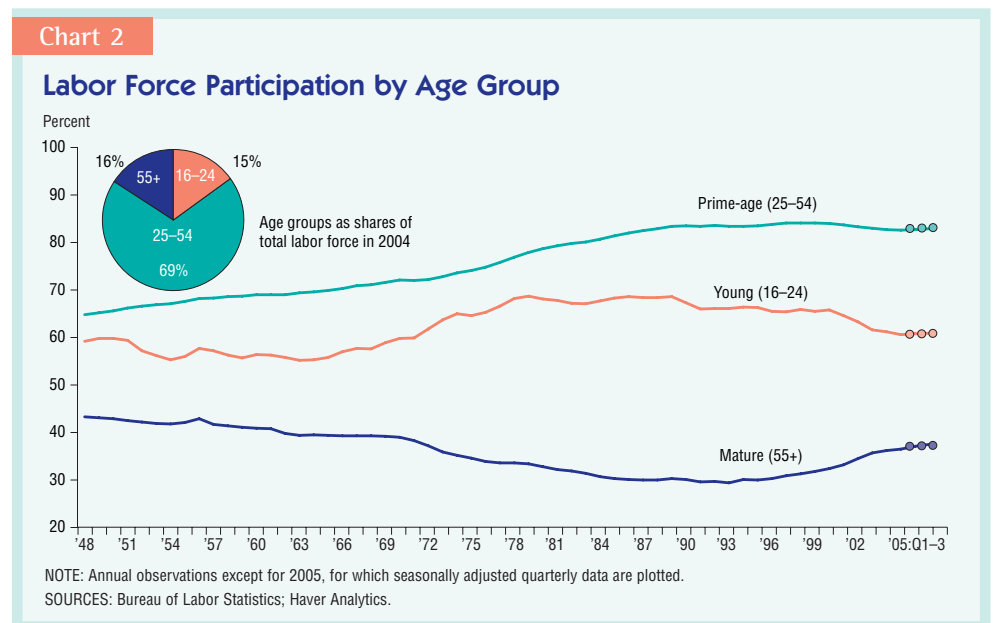
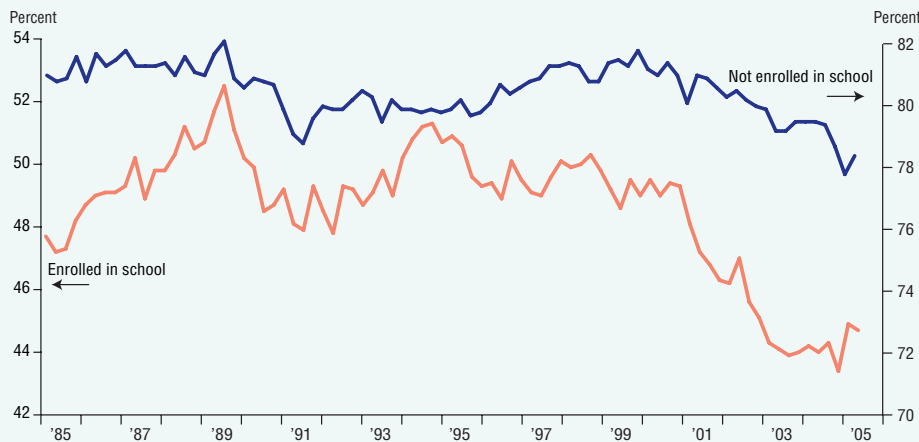


Chart 3

Labor Force Participation Rate by School Enrollment Status (16- to 24-year-olds)



NOTE: Data are seasonally adjusted.
 SOURCES: Bureau of Labor Statistics; Haver Analytics.

labor force participation rates by age group since 1948. Declining participation rates among youth is a long-term trend, ongoing since the late 1980s. The decline has seemingly intensified in and around recession years, in 1990 and again post-2000, for example. The opposite trend holds for mature workers. After bottoming out in 1993, participation rates for older individuals have steadily increased. Prime-age workers (ages 25 to 54), meanwhile, make up the bulk of the workforce and have experienced a leveling off in rates. After rapid increases in rates in the 1970s and mid-1980s, labor force participation among prime-age workers stabilized in the 1990s, rising very slowly to a peak in 2000. Post-2000, there has been a slight decline in participation among this group.

Some of the drop in youth participation stems from a decline in the share of students who work. Chart 3 shows how the drop-off in participation among youth who are enrolled in school began earlier and is much steeper than among youth who are not enrolled in school. Compounding the effect of this sharp decline in participation rates among students is an increase in the share of 16- to 24-year-olds who are students. Between 1985 and 2004, the share of 16- to 24-year-olds enrolled in school jumped from 36 percent to 51 percent.

Another striking change in Chart 2 is the upturn in market participation among the 55 and over group. The increase followed almost a decade of flat participation rates among this group. What caused it? Research suggests that the rise in the labor force participation rate of older workers is due to a combination of factors. These include longer-term changes such as healthier and longer life spans, the decline in defined-benefit pension plans, changes to Social Security benefit rules, and the increased cost of health care.

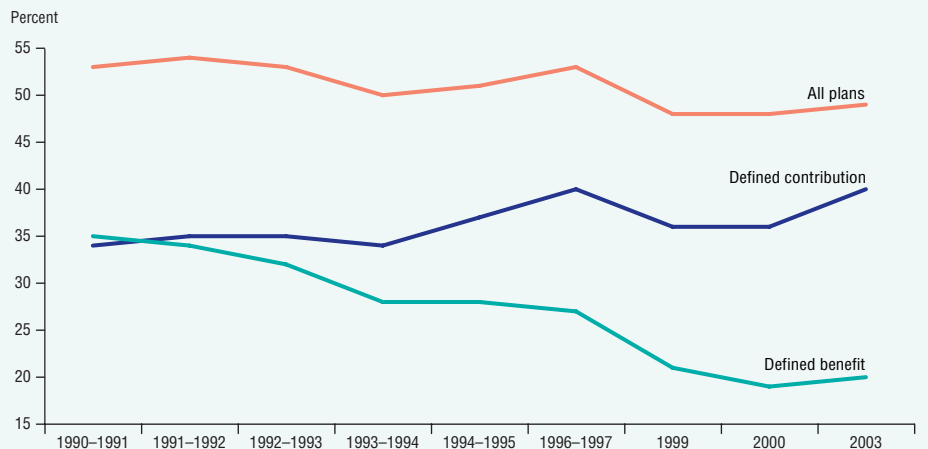
For a given age, older individuals today are healthier than they have been historically.⁶ People also live longer, making them more able to work and increasing their need for income in retirement. Life expectancy at birth was 77.3 years in 2002, compared with 49.2 years in 1900. Conditional life expectancy has also increased dramatically. Whereas a 55-year-old in 1900 could expect to live an additional 17.9 years, a 55-year-old in 2002 could expect to live an additional 26.1 years.

The decline in defined-benefit plans and rise in defined-contribution plans are also contributing to keeping older workers in the labor force. One study found that defined-contribution plans have postponed retirement by two years on average.⁷ As Chart 4 shows, the share of workers covered by defined-benefit plans has been falling, while the incidence of defined-contribution plans, such as 401(k) plans, has been rising. Defined-benefit plans often discourage additional work because such plans provide a fixed monthly payment once a worker reaches a certain combination of age and on-the-job tenure. Defined-contribution plans, on the other hand, are more flexible. They are not characterized by age and experience-based cutoffs (except an initial period required for vesting), and workers who continue on the job accumulate more retirement savings.

In addition, several changes to Social

Chart 4

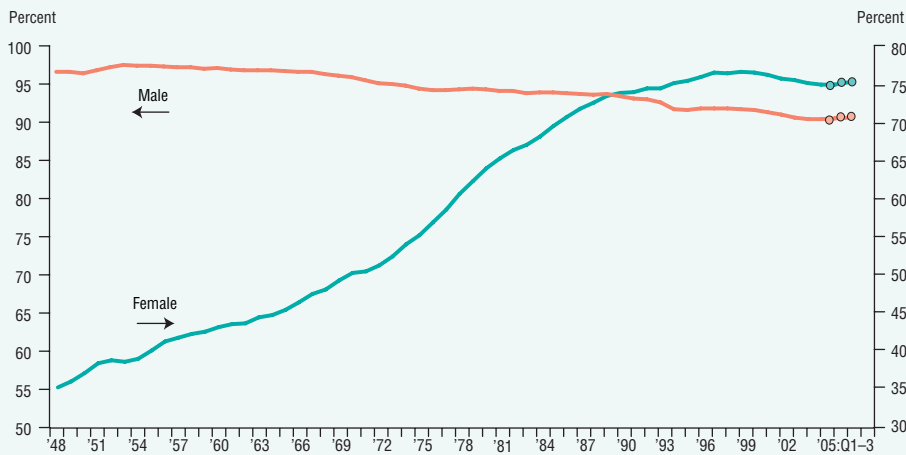
Percent of Private Industry Workers Participating in Retirement Plans



NOTE: Some workers have both defined-benefit and defined-contribution plans. Thus, the figures for all plans are less than the sum of defined-benefit and defined-contribution plans.
 SOURCE: *Compensation and Working Conditions*, by Jordan Pfluntner, Bureau of Labor Statistics, July 2004.

Chart 5

Labor Force Participation Rate by Gender (25- to 54-year-olds)



NOTE: Annual observations except for 2005, for which seasonally adjusted quarterly data are plotted.
SOURCES: Bureau of Labor Statistics; Haver Analytics.

Security encourage the elderly to work longer. For example, Social Security recipients who work past the normal retirement age can now receive full benefits. Another factor cited in the rise in labor force participation among older workers is increasing health care costs. The need to cover higher out-of-pocket medical expenses and the desire for employer-based health insurance are two important factors tying older workers to the labor force to a greater extent than in the past.⁸

Participation by Gender. Long-run changes in the prime-age population's participation behavior have been primarily driven by dramatic changes in female labor force participation since the 1950s. As Chart 5 illustrates, the labor force participation rate of men has been declining steadily since 1948. But changes for prime-age men have been small, with labor force participation falling by about 7 percentage points over 50 years. Prime-age female labor force participation, in contrast, has risen by about 40 percentage points in the past 50 years.

The long-term trends in female participation rates are familiar topics in the literature. Demographic changes affecting labor supply, such as fewer children, delayed marriage, higher divorce rates, more education and aging of the baby boomers, drove women into the labor

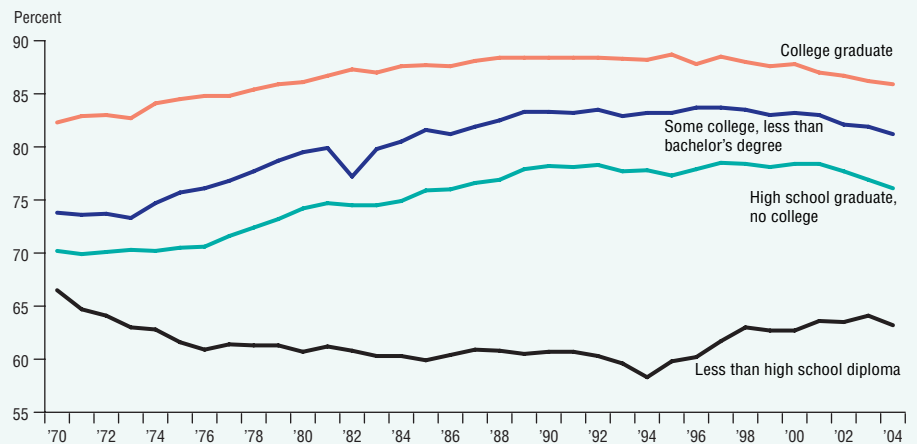
market in the 1970s and 1980s. One study suggests demographic changes such as these accounted for 46 percent of the change in labor force participation rates of prime-age women between 1970 and 1985.⁹ The rest of the change was due to the rising propensity to participate, a change that could have been driven more directly by demand-side factors such as rising wage rates and increasing acceptance of women in the workplace.

Additional explanations have been offered for the expansion of the female labor force. One of them is technological innovation, such as the microwave oven and the dishwasher. Household inventions dramatically reduced the number of hours needed to complete household chores and freed up time to be spent on other activities, such as work outside the home. The advent of the birth control pill and other forms of modern contraception allowed women to exercise more control over the timing and size of their family.

The recent downturn in women's labor force participation rate has surprised many. Prime-age female labor force participation rates slid from their peak of 76.8 percent in 1999 to 75.1 percent in first quarter 2005. This is an unprecedented fall in the prime-age female participation rate in the post-World War II era (since the first quarter of 2005, prime-age female participation has risen slightly from 75.1 percent to 75.4 percent). It bears noting, however, that the pace of increase in female participation rates has been slowing since the mid-1980s. According to a recent Federal Reserve Bank of Boston paper, the decline in rates has been concentrated among college-educated women, both married and unmarried.¹⁰ Declines have been largest for college-educated, married women who have children under age

Chart 6

Labor Force Participation Rate by Educational Attainment (25- to 64-year-olds)



SOURCE: Bureau of Labor Statistics.

Texas Trends in Labor Force Participation

Historically, the Texas labor force participation rate has been higher than the U.S. rate (*Chart 1*). Over the past 20 years, the average participation rate in Texas is 68.6 percent, compared with the U.S. average of 66.4 percent. Several factors contribute to this difference.

Texas has a higher employment-to-population ratio, meaning a larger share of the adult population is employed. This is due to differences both in Texas' demographic composition and a higher propensity of the Texas population to work. With regard to demographics, Texas has larger population shares of the age groups that are characterized by higher participation rates, such as prime-age individuals 25 to 54. At the same time, Texas has fewer older people—a portion of the population that is typically not employed. For example, in 2004, 25 percent of the adult civilian population in Texas was over the age of 54, while in the United States 28.5 percent was. Some of the differences in the labor force participation rates are also explained by the foreign-born share of the population. Texas has a greater percentage of foreign-born residents, and foreign-born men are characterized by higher labor force participation rates than U.S.-born men. Undocumented foreign-born men in particular have very high labor force participation rates.¹

In addition to demographic differences, institutional differences help to explain higher labor force participation rates in Texas. Texas does not

have a state income tax. It also has less generous safety net programs relative to the other large states. As a result, there are greater incentives in Texas to participate in the labor force than there are in many other states.

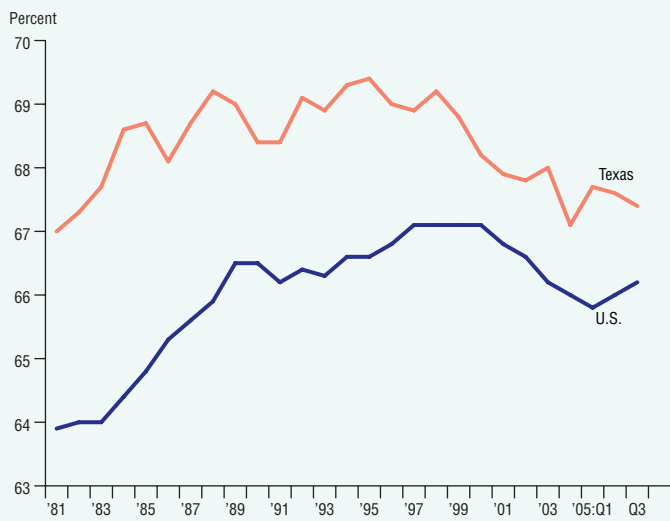
Chart 1 also shows that the difference between Texas and U.S. participation rates has been shrinking over time. The main reason for the convergence is a long-run decline in the state's female labor force participation rate. Chart 2 shows relative labor force participation rates by gender—the Texas labor force participation rate divided by the U.S. rate and multiplied by 100. An observation above the 100-line indicates a higher participation rate in Texas, while an observation below the 100-line indicates a lower rate. The relative male labor force participation rate has been roughly constant over time, remaining well above the 100-line. The relative female labor force participation rate has declined significantly over the past two decades and fell below the 100-line in 2000. In 2004, the female labor force participation rate in Texas was about 2 percent lower than the U.S. rate.

—Anna L. Berman

Note

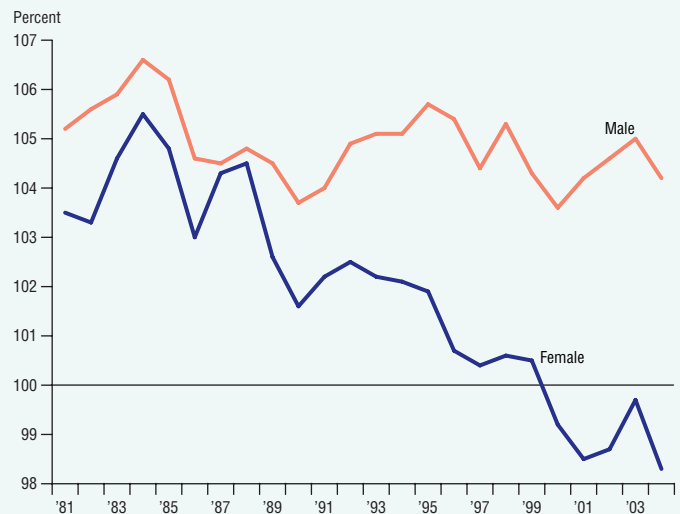
¹ "Undocumented Immigrants: Myths and Reality," by Randy Capps and Michael Fix, The Urban Institute, October 2005 (www.urban.org/UploadedPDF/900898_undocumented_immigrants.pdf).

Chart 1
Labor Force Participation Rate



SOURCE: Bureau of Labor Statistics.

Chart 2
Relative Labor Force Participation Rates by Gender
(Texas as a share of U.S.)



SOURCE: Bureau of Labor Statistics.

6 and/or high-earning husbands.

Compounding these behavioral changes are compositional changes in the female population, such as growing shares of prime-age women who have college degrees or are Hispanic. Hispanic women have likely had an important effect because they have increased quickly as a share of the adult population and have lower labor participation rates than other women. (Hispanic men, in contrast, have

higher labor force participation rates than non-Hispanic men.)

A Bureau of Labor Statistics report notes an additional change—in the 1990s, there was a large increase in the number of prime-age women who were disabled. In fact, between 1991 and 2003, the proportion of out-of-labor-force women ages 25 to 54 who reported that they did not work because they were ill or disabled rose from 12.6 percent to 21.9 per-

cent.¹¹ Over the same period, the share reporting that they did not work because they could not find a job fell from 1.9 percent to 1.0 percent (for prime-age men, this share fell from 10.5 percent to 4.4 percent). These data suggest women could still readily find work.

Other potential explanations for the decline in female participation rates include declining real wage growth, increases in other family income and

changing preferences for work. More than anything else, however, research seems to point to “unexplained factors” driving down female labor force participation in recent years.¹² In other words, this phenomenon is not well understood.

Participation by Education Level. One concern with falling participation rates is that the trend may reflect reduced job market opportunity for vulnerable workers, such as those with lower education levels and hence, lower incomes and less wealth. The evidence does not seem consistent with an exodus of the least-skilled workers from the labor force (*Chart 6*). In fact, labor force participation rates have risen among individuals ages 25 to 64 who lack a high school diploma—from 58.3 percent in 1994 to 63.2 percent in 2004. All other education groups have experienced declines, and the higher the education level, the greater the decline. The largest decline—2.8 percentage points since 1995—is among individuals with a college degree or higher. Individuals with some college education but without a college degree had a decline of 2.5 percentage points from their 1996 peak. High school graduates with no college have posted a reduction of 2.4 percentage points since 1997.

Latin American immigrants are an important reason that participation rates are rising among people who lack a high school diploma. Less-educated immigrants have higher participation rates than similarly educated U.S. natives and currently make up all the growth in the low-skilled labor force, pushing up this group’s participation rates over time.

Conclusion

Over the past half century or so, labor force participation rates have tended to be pro-cyclical, with a slight lag. That is, labor force participation tends to increase following increases in economic activity. However, when we look at the cyclical behavior of participation rates by gender, age group and educational attainment, we see noticeable differences. For example, the participation rates of men tend to be less volatile and more pro-cyclical than the participation rates of women. Likewise, the participation rates of the young tend

to be more volatile and pro-cyclical than those of the elderly.

Cyclical movements in participation rates occur against a backdrop of longer term trends. The trend toward greater female labor force participation has been going on for several decades and has been well documented and widely studied. As more women have entered the labor force, men have tended to leave, with the net effect being that participation rates for prime-age workers have been rising for the past several decades, albeit at a slower rate over time. More recently, these increases have ceased altogether.

Outside of the prime-age groups, participation rates have displayed different trends in recent decades, with younger workers dropping out of the labor force and older workers joining it. The trend toward greater labor force participation by older workers dates from the early 1990s. Because there appears to be remarkably little variation in this group’s participation rate over the business cycle, we are probably seeing a trend driven by longer term forces. Likely candidates are increased life expectancy and changes in pension arrangements.

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Notes

The authors thank Dallas Fed economic analyst Anna Berman for contributing the box on Texas trends.

¹ The adult population in this context refers specifically to the civilian, noninstitutionalized population ages 16 and over.

² This is partly because conventional output measures, such as GDP, do not include the value of unpaid work, such as household production. It should also be noted that a decline in the participation rate will not necessarily affect aggregate production if the number of hours worked rises among those who remain employed. Similarly, labor force participation can rise or fall with changes in unemployment even if the number of employed workers does not change. Again, output would be unaffected.

³ We follow the methodology in “Business Cycles: Real Facts and a Monetary Myth,” by Finn E. Kydland and Edward C. Prescott, Federal Reserve Bank of Minneapolis *Quarterly Review*, Spring 1990, pp. 3–18.

⁴ In contrast to Table 1, we use annual observations for the education groups. The quarterly time series for participation by education groups

starts in 1992. Annual labor force participation rates by education are for the adult civilian noninstitutionalized population ages 25 to 64. Quarterly labor force participation rates by education are for the same population ages 25 and up, while all other participation rates are for the same population but include everyone 16 and above.

⁵ We also ran the correlations of GDP with education groups on quarterly data from 1992 to 2005. The results showed a pro-cyclical correlation of GDP with two-period leads and lags of the participation rates of people with college degrees. The other education groups, however, were either weakly pro-cyclical (those with some college but no degree) or countercyclical, as in the case of high school graduates.

⁶ See, for example, “Declining Disability Among the Elderly,” by D. M. Cutler, *Health Affairs*, Vol. 20, November/December 2001, pp. 11–27.

⁷ “Retirement and the Evolution of Pension Structure,” by Leora Friedberg and Anthony Webb, *Journal of Human Resources*, vol. 40, Spring 2005, pp. 281–308.

⁸ See “Program Report: The Economics of Aging,” by David A. Wise, *NBER Reporter*, Summer 2003, for papers referring to these issues (available at www.nber.org/aging.html).

⁹ “How Do Demographic Changes Affect Labor Force Participation of Women?” by Daniel Lichter and Janice Costanzo, *Monthly Labor Review*, November 1987.

¹⁰ “Women’s Rise—A Work in Progress: Are Professional Women Opting Out?,” by Katharine Bradbury and Jane Katz, Federal Reserve Bank of Boston *Regional Review*, First Quarter 2005.

¹¹ “Labor Force Participation during Recent Labor Market Downturns,” by Steven Hipple, Bureau of Labor Statistics, *Issues in Labor Statistics*, September 2003.

¹² See, for example, “What’s Up with the Decline in Female Labor Force Participation?” by Julie L. Hotchkiss, Federal Reserve Bank of Atlanta Working Paper 2005-18, August 2005.