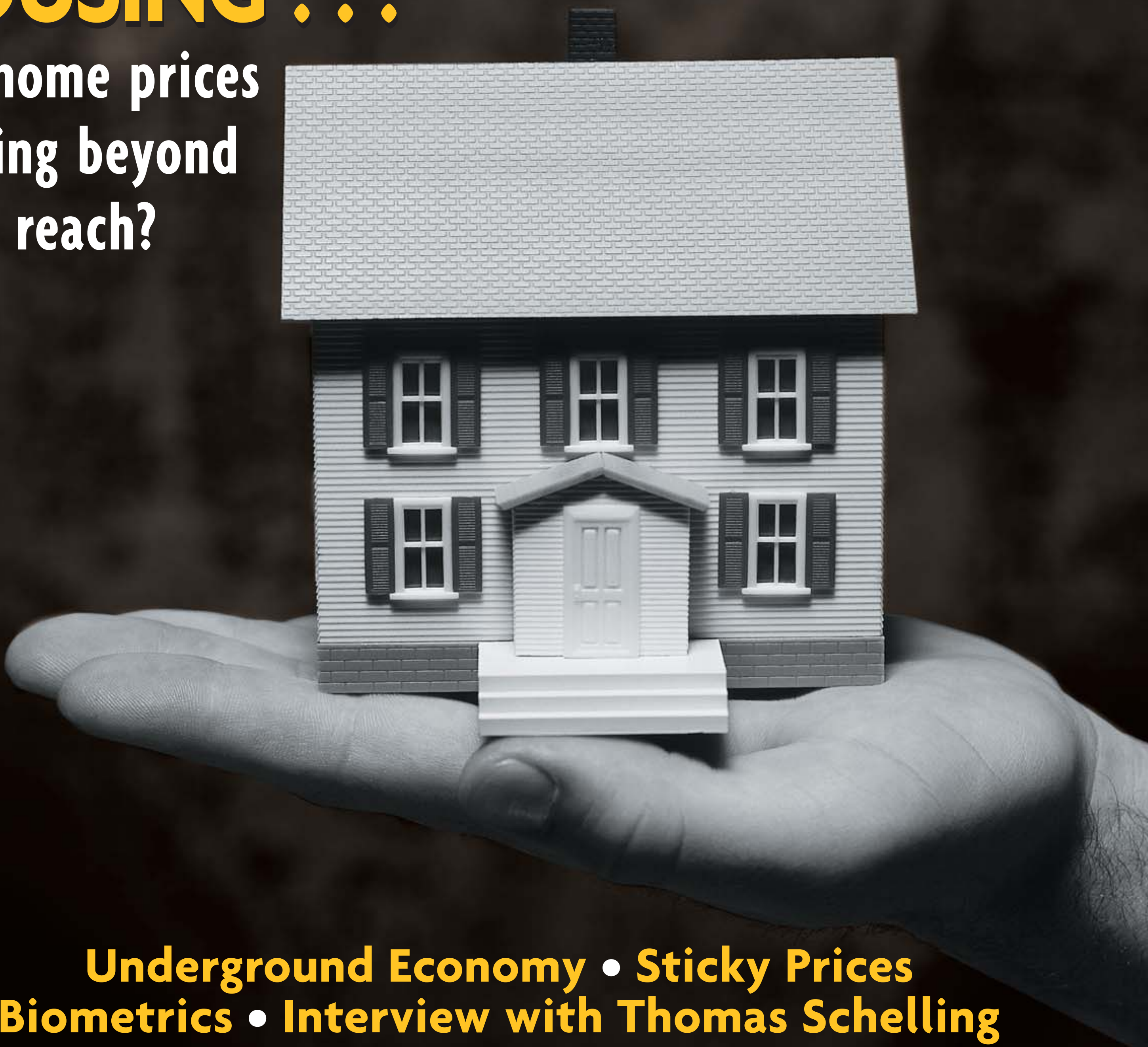
SPRING 2005

REGION FOCUS

THE FEDERAL RESERVE BANK OF RICHMOND

AFFORDABLE HOUSING . . .

Are home prices soaring beyond your reach?



Underground Economy • Sticky Prices
Biometrics • Interview with Thomas Schelling

PHOTOGRAPHY: STOCKBYTE/GETTY IMAGES

REGIONFOCUS

COVER STORY

FEATURES

DEPARTMENTS

VOLUME 9
NUMBER 2
SPRING 2005

Our mission is to provide authoritative information and analysis about the Fifth Federal Reserve District economy and the Federal Reserve System. The Fifth District consists of the District of Columbia, Maryland, North Carolina, South Carolina, Virginia, and most of West Virginia. The material appearing in *Region Focus* is collected and developed by the Research Department of the Federal Reserve Bank of Richmond.

Published quarterly by
the Federal Reserve Bank
of Richmond
P.O. Box 27622
Richmond, VA 23261
www.richmondfed.org

Subscriptions and additional copies: Available free of charge by calling the Public Affairs Division at (804) 697-8109.

ISSN 1093-1767

Encouraging Homeownership — at What Cost?

As the cover story of this issue of *Region Focus* makes clear, affordable housing is a significant problem for many Americans. There are several reasons for the mismatch between consumer demand on the one hand and market supply on the other. In particular, land-use regulations appear to be an important factor driving up prices in some of the Fifth District's highest growth regions. Policymakers should consider the costs such regulations impose on society before enacting or expanding these rules.

Reconsideration may also be worthwhile for the dominant policy response to shortages of affordable housing. In general, governments have preferred to subsidize the consumption of housing in various ways rather than to provide cash transfers to support the incomes of those most hurt by high housing costs. But it's not clear that this approach is a particularly efficient means of helping such consumers. It may have induced them to obtain more housing and less of other goods than they would have in the absence of such subsidies. Providing people with cash transfers, in contrast, would be a more direct solution to the problem and would let them choose how best to allocate their resources. It is a well-established economic principle that the provision of cash or cashlike assistance is the most cost-effective way to improve the well-being of low-income households. There is really nothing special or different about housing that suggests that deviation from this principle is warranted.

So if cash transfers would be a more desirable policy response, why do we subsidize housing instead? One reason — associated specifically with *homeownership* — may be the supposed "positive externalities" associated with ownership. Many believe that benefits accrue not just to the homeowners but to the larger community as well. For instance, several studies have suggested that homeowners tend to be more active in their communities, by participating in charitable, social, and political groups at relatively high rates. Others have claimed that homeowners tend to lead healthier, happier lives, thus reducing total public expenditures on medical care. And, finally, some have argued that homeowners generally take better care of housing than do renters, contributing to more pleasant, stable neighborhoods.

The last argument seems consistent with economic theory. We would generally expect owners to maintain things better than people who are just temporary stewards of the property. And insofar as landlords often have difficulty assessing the character of prospective renters or monitoring their behavior once they have moved in, we might expect that rental properties will receive less care from their occupants.

The other examples of positive externalities discussed above may have causation problems, however. Community activism and personal health could be associated with homeownership but not a result of it. We know that, on average, homeowners tend to be wealthier than renters. But we also know that wealthier people tend to be more active in their communities as well as healthier than those near the bottom of the income distribution. Which factor — homeownership or wealth, or even some other, unobserved factor that is correlated with both of these — is driving higher rates of community activism and health? It's not obvious.

In addition, there may be social costs associated with homeownership, especially for low-income people. Homeownership often makes it more difficult for people to move from one place to another — mobility that might be especially valuable to those in search of better jobs. Renting may make it easier for them to relocate for a position that more closely suits their skills. Also, low-income households have more difficulty weathering sudden drops in income and large unexpected expenditures, which could lead to foreclosure. As William Rohe, Shannon Van Zandt, and George McCarthy of the University of North Carolina's Center for Urban and Regional Studies have noted, "While breaking a lease on a rental unit is problematic, the stress and trauma caused by defaulting on a mortgage is much more serious."

Overall, then, I think we should be cautious about pursuing policies that aim to increase homeownership. For some people, owning a home is clearly a good decision, which will benefit them and their neighbors. But for other people, renting may make more sense — again, for both the renters and society generally. I don't see a strong reason to tilt the playing field in favor of one choice or the other, especially when the public benefits and costs of encouraging homeownership are so uncertain.

JEFFREY M. LACKER
PRESIDENT
FEDERAL RESERVE BANK OF RICHMOND

FEDERAL RESERVE

New Times, New Functions

BY JENNIFER WANG

As the economy changes, so does the role of Federal Reserve Bank branch offices

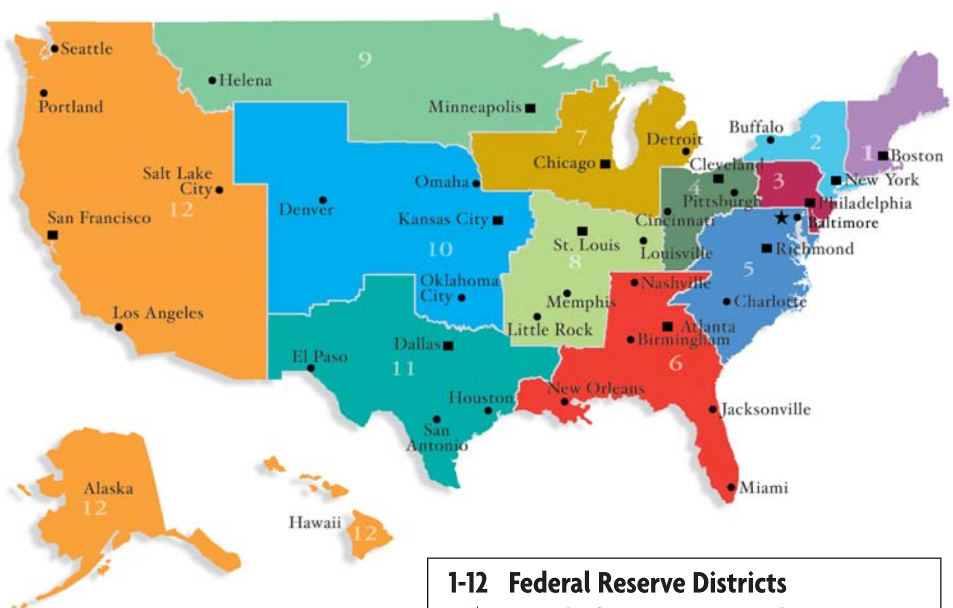
The Federal Reserve System and its 12 banks owe their existence to the Federal Reserve Act of 1913. This landmark legislation famously reflected the model of so many American institutions: to be at once centralized and decentralized. The Board of Governors sits in Washington, D.C., and formulates U.S. monetary policy in coordination with the Reserve bank presidents. It's a system of geographic checks and balances, with the centralized board relying on the firsthand regional economic knowledge of the decentralized bank chiefs, whose main offices are located in cities around the country. And of course, this knowledge exchange works both ways.

But even divided among 12 Reserve banks, the entire United States is a lot of turf to cover. For this reason, many Reserve banks also keep branch offices. Since the very beginning, the role of these branches has been in some debate. At first, branches were envisioned as miniature Reserve banks, doing everything the main office could do but on a smaller scale. Then they became more like repositories for specific functions like check clearing. And the discussion has grown more complicated in the past decade with advancing technology and the evolving functions of the Federal Reserve System itself.

The Federal Reserve Act stated that there would be between eight and 12 Reserve banks, and cities eagerly vied for the opportunity to be home to one. But beyond the number of Reserve banks to be created, there was also considerable uncertainty over the nature and scope of the banks' responsibilities — an uncertainty compounded by the speed with which the banks were to be established. In addition, confusion arose during the discussion of Reserve bank branch offices. It was even less clear what powers these branches would have, and what role they would play within the System.

Twenty-five branch offices would eventually emerge, the number varying from district to district, determined by the needs of the individual Reserve banks. The Fifth District (Richmond), for example, maintains two branches — one in Charlotte, another in Baltimore — while the Sixth District (Atlanta) has fives branches, and the First and Third Districts (Boston and Philadelphia, respectively) have none. Many districts also are home to regional check-processing centers, though the number of these centers has dropped recently.

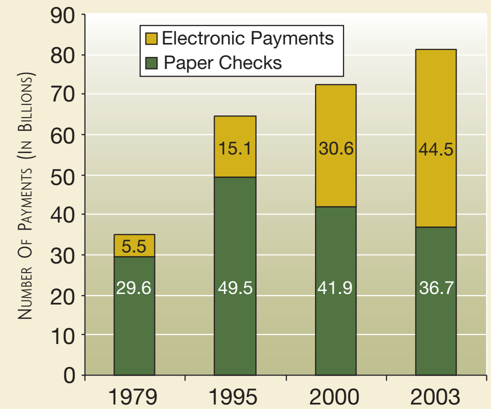
Early on, regional branch offices largely supported the main Reserve banks in an operating capacity, providing functions such as check clearing and cash processing. Over the years, the branches have adapted to the evolving needs of their respective



1-12 Federal Reserve Districts
★ Board of Governors/Washington, D.C.
■ Federal Reserve Bank Cities
● Federal Reserve Branch Cities

NOTE: Districts 1 and 3 don't have branch offices.
SOURCE: Board of Governors of the Federal Reserve System

Electronic Payments Have Increased as Check Volume Has Declined



SOURCE: Federal Reserve System

Reserve banks. Some, for instance, have seen their role in the payments system decline sharply, while others have taken on new responsibilities in the areas of community affairs and bank supervision and regulation.

Vanishing Checks

The rapid drop in paper checks is the most urgent factor driving change at the branches, and has resulted in a sizeable scaling down of infrastructure. Though checks remain the most popular form of noncash retail payment, from 1995 to 2002 the number of checks written fell by roughly 10 billion. In 2003, the number of electronic payments through credit cards, debit cards, and similar instruments exceeded the number of check payments for the first time — by more than 8 billion — and the gap is expected to widen over time.

Major changes at the Fed also began in 2003. A significant Fed initiative sought to reduce check service operating costs as the market environment signaled a shift in consumer and business preferences from checks to electronic payments. The initiative proposed an annual review of the check processing operations network for consolidation opportunities; nearby offices would be collapsed into one another to take advantage of economies of scale. When the scheduled office moves are completed next year, checks will be processed in 23 locations (down from 45), and the overall check staff will be reduced by about 400 positions.

In the Fifth District, the Richmond bank closed its check processing centers in Charleston, W.Va., and Columbia, S.C. The checks that had been processed in Charleston were sent to the Cleveland Fed's Cincinnati branch, and those processed in Columbia went to Charlotte. In addition, all of the checks processed at the main office in Richmond were moved to the Baltimore branch.

David Beck, vice president and interim branch manager at the Baltimore office, explains the effect of the consolidations. "All of Virginia territory is now in Baltimore, causing Baltimore's check volume to rise initially by 70 to 80 percent," he says. "But because of an overall decline in volume, that percentage has not held up."

The Eighth District's Response

Many of the districts faced substantial challenges when the check restructuring process began. But in the Eighth District, St. Louis Fed President William Poole described the impact as "seismic." With its Louisville branch only 100 miles from Cincinnati, and Little Rock just 120 miles from Memphis, it was difficult to justify maintaining operations at all the branches. It was ultimately decided that operations at the Louisville and Little Rock branches would be completely shut down and the buildings sold. The staff — reduced to fewer than 10 employees at each branch — would work in leased space.

These announcements raised questions concerning the necessity of keeping the Little Rock and Louisville branches at all. But the Eighth District decided that they still served a vital purpose. In the St. Louis Fed's 2003 *Annual Report*, President Poole stated that his district "cannot afford to lose or lessen the importance of the network of economic information-gathering resources we've established, the critical input we get from our branch boards of directors on the regional economy, and the one-on-one relationships we've nurtured among the region's bankers, teachers, community development agencies, and university professors."

Indeed, nearly all Reserve bank presidents cite the vital role of branch offices in providing up-to-date information on the state of the economy, which they use in preparing for Federal Open Market Committee deliberations. That information, though often anecdotal, can provide valuable insights about what is happening around the districts before formal statistical reports are released.

While Poole and his colleagues rely on the branches to provide them with timely reports on economic conditions, the branches are trying to increase their public visibility within the communities they service. According to Randall Sumner, vice president of public and community affairs at the St. Louis Fed, "One way of doing that is devoting more effort to economic education and regional economic research activities."

Thus far, Sumner believes the transition at the branches has been a smooth one. "This year, we're going to be taking advantage of the skills of the new people we've hired," he says. "The proof will be what it looks like at the end of the year. But we're all very excited and have every confidence in its success."

The Fifth District's Unusual Situation

The Fifth District is relatively unique among Reserve bank districts. Its branch offices are located in much larger metropolitan areas than its main office. This is one reason why, for now at least, check-processing will remain a principal activity in Baltimore and cash operations will continue to be significant in Charlotte. Also, because Charlotte is home to some of the nation's largest financial institutions, banking supervision and regulation has become a crucial function there, as has community outreach.

Beck points out that Baltimore is "one of the largest branches in the system. And the Baltimore-Washington metropolitan area we serve is certainly a lot bigger than, say, Little Rock or

Louisville. So I think checks and cash operations will remain here for a number of years."

Jeff Kane, senior vice president and head of the Charlotte office, emphasizes the unique status of the Charlotte branch. "I bristle when people talk about branches as generic operations. When you look at the banking presence in the Carolinas, it far outweighs anything else outside of New York."

In the past, Kane says, "We have thought of our branch as an operational facility. Visitors came in here and we gave them a tour of the checks and cash departments, for instance." But that's changing, as the Fed seeks to increase its presence within the local community.

Many of Charlotte's big commercial banks have important long-standing ties to the region. "There's not a board of directors of a nonprofit group, charitable organization, or local university that is not touched by those banks in a significant way," Kane notes. He would like to see the Richmond Fed's Charlotte office take part in similar activities. Although careful to point out that he doesn't have the staff to equal the "visibility of a commercial banking organization that employs 250,000 people," Kane says he is working to increase "the presence of the branch in those circles in which we operate."

There are obvious reasons for the expanded role of the Charlotte office and of branch offices throughout the Federal Reserve System, Kane says. "What do we all have in common? The answer is we are all tied to the local economy and to the prosperity of the region, and because of that it makes sense for the branches to increase our community outreach activities."

"Reserve bank presidents cite the vital role of branch offices in providing up-to-date information on the state of the economy, which they use in preparing for FOMC deliberations."

A New Leg

One of the most popular metaphors for the Fed is the image of a stool, with three legs representing each of the three main areas traditionally under the Fed's jurisdiction. There is a monetary policy and research leg, a banking supervision and regulation leg, and a financial services and payments mechanism leg. Recent and forthcoming efforts to increase the Fed's community outreach activities, though, may lead to the addition of a fourth leg — a type of public education/community outreach leg.

Jeff Lacker, president of the Richmond Fed, says, "If you look at where our head office is and where our branches are across the district, it's clear that the branches have an important role to play in connecting us to our district." Besides plans to improve economic education and financial literacy programs in the region, efforts to expand regional economic research also will be strengthened. "We've always monitored regional economic conditions out of our head office. But you can only do so much of it from Richmond. We have a very diverse region, and it's important to be aware of those differences. So we're looking to hire regional economists to put into those offices who would be able to focus on the region around the branch." Additionally, Lacker envisions hosting events in cities throughout the district. "That's an area where I think the branches can play a role. They have a presence in their regions, and we can use them to reach out to the communities."

Banking is an area in which the Fed takes a keen interest, of course, and the freeing up of resources once devoted to payment systems operations may help the Fed build and sustain stronger relationships with private banks through its regional offices. "We've generally tried to maintain a relationship with banks that goes beyond our supervisory function, which encourages them to feel as if they can communicate with us about any banking issue that's of concern to them," Lacker says. "Even if we can't pass a law for them, we want them to feel as if we understand what's going on in their industry. We're going to be looking for ways to foster that dialogue with the banking industry."

The functions of Reserve bank branch offices have recently undergone significant changes. But their purpose has, in one sense, remained the same: to assist the main office in carrying out its aims and objectives.

Lacker concludes, "If you look at the System from the point of view of the way it was designed in 1913 — as 12 banks as opposed to one big bank — it's clear Congress meant us to be very well connected to our districts. We need to really know what's going on and to be responsive, and the branches have an important role to play in helping us achieve that goal." **RF**

Readings

Greene, Stephen. "Branching Out: The St. Louis Fed's Three Branches Extend Beyond Bricks and Mortar." In the Federal Reserve Bank of St. Louis 2003 Annual Report, pp. 6-20.

Hammes, David. "Locating Federal Reserve Districts and Headquarter Cities." *The Region*, September 2001, vol. 15, no. 3, pp. 24-27 and 55-65.

Harless, Doris E. "The Federal Reserve Bank of Richmond: A Brief History." *Cross Sections*, Fall 1989, vol. 6, no. 3, pp. 8-9.

Visit **www.richmondfed.org** for links to relevant sites and supplemental information.

Betting on the Future to Finance the Present

BY CHARLES GERENA

While other sports teams demand that taxpayers fund new stadiums, the Richmond Braves have offered to build their own ballpark as part of a $330 million development. The catch is the minor-league baseball club wants to use tax increment financing (TIF) to cover the stadium's $80 million cost. Cities and counties throughout the Fifth District use this mechanism, but TIF isn't the free lunch that its supporters portray it to be.

California pioneered TIF in 1952 and a few states followed. The mechanism became more widely used in the 1970s and '80s. West Virginia and North Carolina were among the last states to embrace TIF, with voters approving this approach in 2002 and 2004, respectively.

Here's how it works. Municipalities issue debt to pay for public improvements. The debt is repaid using just the revenue generated by increases in property values, retail sales, or other taxable activities within a designated area that benefits from the improvements. Typically, a separate development authority issues the debt in the form of tax-exempt bonds.

TIF's main selling point is that localities can encourage private investment in economically distressed or blighted areas without dipping into their budgets directly. They also avoid issuing general obligation bonds, which requires public approval. (Charlotte voters, for example, soundly rejected a bond issue to pay for a new basketball arena and minor-league ballpark in 2001.) Such bonds also count against a locality's debt limits.

Studies have shown that TIF can have positive effects on property values of designated areas, but that growth may come at the expense of other places. "When you build a TIF [project], it drains development out of the rest of the city," says economist David Merriman of Loyola University Chicago, who co-authored a 1999 paper on how TIF has affected growth patterns in the greater Chicago area.

Of course, redistributing wealth to blighted communities may be the goal of TIF users. Several states, for instance, have a "but-for" test that requires TIF to be used for public improvements in a location only if private development wouldn't have take place there. But proving such a thing is often difficult to do, says Merriman and others.

This highlights an important risk. Bond investors must be assured that they will receive their payments, or few TIF-backed projects will go forward. Since repayment of TIF bonds depends on development occurring where it supposedly would not have happened, this uncertainty could scare off investors. South Carolina had this problem until municipalities were allowed to offer water and sewer revenues as a backup source of debt payments.

A locality also can promise to appropriate general funds if incremental revenue from a TIF-designated area falls short. "It's not a binding obligation," but a good faith provision, says John Petersen of George Mason University's School of Public Policy. Still, a locality is unlikely to let a TIF bond default because doing so could hurt its credit rating.

This arrangement exists in Richmond, where streetscape work on Broad Street and the construction of downtown parking garages are being funded with TIF. If the taxing district yields a lower amount of parking fees and other revenue than what is necessary to cover the bond payments, the city has promised to pay up to $3 million of the shortfall.

To minimize these risks and make TIF more attractive to investors, local officials may ask for a letter of credit from the developer or keep the proceeds of a TIF in escrow until a project meets certain milestones. More commonly, they wait until economic growth is already occurring in an area before approving the use of TIF, or they recapture revenues from a broadly drawn taxing district that includes nearby businesses.

These latter tactics contradict the idea that TIF should support development that wouldn't have occurred otherwise. In West Virginia, TIF has been used mostly in areas where the population is growing, not in counties that have been losing residents and lacking economic development.

Even when new development occurs as planned, TIF often still represents an opportunity cost to taxpayers. The incremental increases in tax revenue that would have gone to a variety of general purposes instead go toward repaying debt for 20 years or more. Further, that revenue is unavailable to fund services needed by new businesses or residents.

Despite these costs and risks, communities may still be willing to leverage tomorrow's tax revenues in order to influence the pace and nature of development today. "The community can go to the developer and say, 'We can provide a lot of your basic financing at a cheaper rate ... but here's the kind of project we want,'" says Petersen. For developers, that's a difficult offer to refuse. **RF**

TIF Projects In Action

District of Columbia: Mandarin Oriental Hotel, Gallery Place (mixed-use development)
Maryland: Toys-R-Us distribution center in Frederick County; Park Place in Annapolis (mixed-use)
South Carolina: Sewer and road improvements in Hilton Head; Manchester Village in Rock Hill (mixed-use)
Virginia: MacArthur Center in Norfolk (regional mall); Town Center of Virginia Beach (mixed-use)
West Virginia: Extension of sewer lines in growing residential areas in Raleigh County; Square at Falling Run in Morgantown (mixed-use)

JargonAlert

Zero-Sum Game

BY ERIC NIELSEN

Economic life is often compared to a game. In many ways, this is an accurate characterization. Participants in the economy try to maximize their outcomes within a rule-based structure, much as players of a game do. As such, some economic actors are very successful, while others appear to get left in the dust.

At one time or another, most people suffer some sort of economic setback. People may invest their money poorly, lose their jobs, or find that their skills and knowledge have become obsolete. The high visibility of these negative outcomes has led some pundits, and a few economists, to argue that the economy functions as a zero-sum game.

Just what is a zero-sum game? Mathematically, a zero-sum game is one in which the sum of all the gains and losses made by all the players must be zero. This is the familiar idea that one man's loss is another man's gain. For example, poker is a classic zero-sum game. At the end of the night, the total amount of money involved in the game is the same as at the start of the game. Thus, any money made by one player must come at the expense of the others.

Is it fair to argue that a market economy works the same way as a zero-sum game? Must every economic action have losses as big as the gains? No.

The first flaw in the zero-sum argument is the implicit assumption that a fixed basket of goods has the same value to all people. But the same good may have different utilities for different people. For example, I might not value a designer dress at all since I have no use for it, but my sister might highly value the dress. Thus, with a fixed array of goods, different combinations of those goods will lead to different overall levels of utility.

More important, the total amount of wealth in the world is not fixed. Consider the example of Henry Ford and the automobile. In 1908, Ford introduced the Model T, the first mass-produced and widely affordable car in history. Through his innovative use of assembly lines, Ford was able to produce reliable cars at relatively low cost. By 1927 he had sold 15 million cars, his company employed well over 100,000 workers at wages double industry standards, and almost 7,000 Ford dealerships had been opened across the country.

Needless to say, Ford himself became extremely wealthy in the process. However, Ford also greatly increased the wealth of countless others through his innovations. He provided high-paying jobs to thousands of workers while producing a much-valued new good to the burgeoning middle class.

The Ford example demonstrates that the level of wealth in a society is not fixed. Though the supply of some raw materials is limited, technological improvements are constantly increasing the productivity, distribution, and quality of the goods produced from these materials. These changes make virtually everyone better off. Thus, most economic activity cannot be called zero-sum games.

Still, it is possible for some people to suffer losses. For example, many manufacturing jobs have moved from wealthy countries such as the United States to developing countries, leaving many U.S. workers without jobs, at least temporarily. The economic hardships that result from globalization are real, and there is justifiable interest in implementing public policies that will better prepare American workers to succeed in a changed environment.

But we also must remember that globalization increases the efficiency of the world economy by allocating resources to their maximum effect. In fact, trade is a perfect example of what is known as a positive-sum game. Some jobs are lost in the process, but overall those losses are more than offset in the long run by cheaper goods and the movement of capital into more competitive projects.

It's useful to consider the Ford example again in this context. The introduction of the Model T surely harmed other auto manufacturers that were unable to compete with Ford's new product. But many millions of people were benefited in the process, making it a positive-sum game.

Are there also examples of negative-sum games? Yes. Certain government regulations, for instance, can produce such outcomes. Consider Manhattan's housing market. The city of New York imposes rent controls on some apartments, which cap the rents that landlords are allowed to charge tenants. This regulation provides a disincentive to maintain the existing housing stock or to add to it. The result is a negative-sum game. Those who can secure a rent-controlled apartment are made better off. But the majority of New Yorkers wind up paying higher rents because there is not enough supply to meet demand.

It's important to remember that this example is unique. Zero-sum games can occur, but they are unusual and often the result of public intervention into private markets. **RF**

ILLUSTRATION: TIMOTHY COOK

An Economist Considers the Causes of Terrorism

BY ANDREW FOERSTER

Since Sept. 11, 2001, terrorism has been firmly planted in the public's mind. While much of the policy debate has focused on measures that might help prevent future attacks, some economists have turned to analyzing the factors that breed such risks in the first place.

Much of that work has concluded that poverty is a core cause of terrorism. But Alberto Abadie, an economist at Harvard University, argues that there are other, more important factors, including a country's level of political freedom, its degree of linguistic diversity, and its natural terrain or geography.

Previous studies on terrorism also make a crucial mistake by exclusively considering international acts of terrorism, argues Abadie, a native of Spain's Basque region, which is home to a strong separatist movement that wants political independence from Madrid. These studies use statistics provided by the U.S. State Department, which include only those terrorist acts that involve citizens and property of multiple countries.

A significant number of terrorist attacks, however, are carried out domestically — involving citizens and property of a single country. Abadie notes that in 2003 alone, there were 1,536 accounts of domestic terrorism compared to 240 international accounts.

"Poverty, Political Freedom, and the Roots of Terrorism" by Alberto Abadie. National Bureau of Economic Research Working Paper 10859. October 2004.

Abadie uses data from the World Market Research Center's Global Terrorism Index to estimate the risk of terrorism. These forecasting data consider the risk of attack against 186 countries around the world and their respective interests abroad, such as embassies.

So what factors increase the risk of terrorist attacks? As noted above, many economists have argued that wealth — or, more precisely, lack of it — may be a principal factor. Wealthy countries may be widely resented by people from poorer countries, and thus become terrorist targets. This may be especially true when the rich country is seen as engaging in "economic imperialism" by exporting its goods and culture to less prosperous parts of the world.

Also, poverty may create an environment where people, unhappy with their own lots in life, turn to violence at home. For instance, a number of studies have documented that poverty increases political strife, which can lead to civil war.

Abadie finds that countries with lower incomes do in fact have higher terrorist risks. While these results may seem to lend some credibility to the idea that poverty breeds terrorism, the situation is more complicated. Lower-income countries have higher terrorist risks not because they are poor but because they generally have additional characteristics that fuel terrorist activity, Abadie says. In other words, there is no causal link between poverty and greater terrorist risk.

The level of political freedom in a country, for instance, is an important factor in determining how much risk a country may face. How does this process work? "Over most of the range of the political rights index, lower levels of political rights are associated with higher levels of terrorism," Abadie writes. But this is untrue of highly authoritarian countries. The policies those countries adopt to stifle political dissent may help keep terrorism at bay, Abadie argues.

Thus, both free societies as well as authoritarian ones tend to be at less risk than those in the middle — countries with moderate levels of political freedom. Those risks may be especially acute for countries like Russia and Iraq, which are making the transition from authoritarian political systems to more democratic ones.

Internal strife caused by ethnic or religious differences also may elevate the risk of terrorism, some analysts have argued. But the real key is not ethnicity per se, but the number of languages spoken in a country, Abadie says. The higher the probability that two people from a given country speak different languages, the higher the country's terrorist risk.

Geographic factors also are important. Three key variables increase a country's risk: size, elevation, and the fraction of the country that is tropical. Certain features, such as mountains or rain forest, provide potential terrorists with relatively safe training grounds. Geographic characteristics also contribute to the production of illegal drugs, which are sold to finance terrorist activity. For example, terrorists in Afghanistan have sold opium for funding and relied on mountains for protection, while those in Colombia have used cocaine and the rain forest. Lastly, larger countries may have more trouble monitoring potential terrorists, increasing the terror risk.

Abadie's work suggests that there is no magic cure for the root causes of terrorism. Increasing political freedom in a country is a long and difficult process, and there are no obvious policy responses to the problems raised by linguistic differences and geographic characteristics. Still, his research may help us determine the places where terrorist activity is most likely to arise and to better focus our efforts in preventing future attacks. **RF**

BEAN BALL

The Designated Hitter and Moral Hazard

Batters in the American League (AL) of Major League Baseball have long faced the unpleasant knowledge that they are 15 percent more likely to be hit by a pitch than their National League (NL) counterparts.

A virtual cottage industry has sprouted to explain the AL's rate of hit batsmen. The most accepted conclusion is that the introduction of the designated hitter (DH) in the AL in 1973 created a moral hazard problem. That is, pitchers in the NL face a higher price for plunking batters because they, as batters themselves, can face retaliation for their errant pitches. Meanwhile, in the AL, pitchers almost never step into the batter's box, since designated hitters take their place at the plate. The consequences of a brush-back pitch are far less severe in the AL than in the NL.

Sammy Sosa of the Chicago Cubs recoils as a fastball shatters his helmet in 2003. Sosa now plays for the Baltimore Orioles.

PHOTOGRAPHY: AP/WIDE WORLD PHOTOS

Another theory posits that NL pitchers go out of their way *not* to hit their pitching counterparts because they're such awful swingers; hitting a pitcher is a waste because it's so easy to get them out, statistically speaking.

A recent contribution to the literature comes from John Charles Bradbury and Douglas Drinen, professors at Sewanee: The University of the South.

Overall, they agree that much of the difference between the two leagues is attributable to AL pitchers' lack of fear of retaliation. But Bradbury and Drinen plow deeper than any others have ventured: They attempt an explanation for the narrowing hit-batsmen gap during the 1990s — when, counterintuitively, in four years there were more batters sent diving for the turf in the NL than the AL. Their answer is twofold.

First, league expansion diluted the talent level in the NL more than in the AL, which probably meant that more batters were unintentionally hit by wild, inexperienced pitchers. Second, there was the 1994 establishment of the "double-warning" rule, requiring umpires to warn both teams of consequences after an obvious bean ball or attempt. That matters because it "significantly raises the cost of retaliation. If a pitcher hits a batter, he knows that retaliation will be very costly for the other team." Thus, NL pitchers have let themselves get a little wilder since 1994.

And maybe now, for a few years at least, baseball wonks can sleep soundly at night, content in the knowledge that the mystery of the hit-batsmen differential has been explained.

— DOUG CAMPBELL

LAND OF THE ECONOMICALLY FREE

Virginia Ranks Third in New Study

According to a new study released by the Pacific Research Institute (PRI), a market-oriented think tank based in San Francisco, Virginia stands as a "citadel of economic freedom in the South." The 2004 *U.S. Economic Freedom Index* ranks Virginia as the third most economically free state in the United States. No other Fifth District state placed in the top 10: South Carolina (13), North Carolina (24), Maryland (27), and West Virginia (32).

Sally Pipes, president and CEO of PRI, describes the *Economic Freedom Index* as an "important tool, grounded in rigorous statistical analysis, for measuring how friendly (or unfriendly) each state government is toward free enterprise and consumer choice." PRI's study of individual states is modeled loosely after existing research conducted on an international scale, such as the *Economic Freedom of the World* and the *Economic Freedom of North America* reports, published by the Fraser Institute and others.

To calculate index values, more than 140 variables were considered for each state, including everything from tax rates, state spending, and income redistribution, to occupational licensing, environmental regulations, and wage laws. Ultimately, a statistical index linked to migration was adopted to rank states in terms of economic freedom, because, the report explains, "migration is the purest expression of individuals responding to differences in freedom ... People want to be free: they strive and work to be free, and search out locations, governments, and situations where freedom reigns."

The study's authors, Lawrence J. McQuillan, director of Business and Economic Studies at PRI, and Robert E. McCormick and Ying Huang of Clemson University's economics department, hope that the new *Index* will persuade people that there is a link between economic freedom and economic prosperity. As McQuillan says, "It affects their bottom line, their pocketbooks — and it's an appropriate issue for policymakers to focus on."

According to the report, "a 10 percent improvement in a state's economic freedom score yields, on average, about a half percent increase in annual income per capita." Or, to put it another way, the average national "oppression tax" per year is 4.42 percent of an individual's income, and the average money amount lost from restrictions on economic freedom per year is $1,161 — adding up to almost $90,000 over a 40-year working life.

Still, the *Index*'s findings reveal several surprises. Kansas, a relatively low-profile state, secured the top spot, while California and New York — states renowned for being hubs of commerce and activity — trailed at the rear, in 49th and 50th place, respectively. These results seem to suggest that while economic freedom is important, it is not the only — or even the most significant aspect — in determining the success of a state's economy. — Jennifer Wang

FACT OR FICTION?

Looking for the Social Security Trust Fund

News flash: Not only does the much-talked-about "Social Security trust fund" exist, it is physically located in the Fifth District. But it's not in Washington, D.C., as you might suppose. It's in West Virginia.

A spokesman at the U.S. Bureau of the Public Debt sounds a bit weary talking about it. Ever since President George Bush made reforming Social Security a centerpiece of his second-term agenda, there's been a surge in interest about the fund. Media calls have been incessant.

The Bureau of the Public Debt is the government arm that actually does the work of investing tax receipts, issuing securities, and redeeming those securities at the request of the Social Security Administration. And all that happens in the bureau's operations center in Parkersburg, W.Va.

To call it a "fund" is a bit misleading, the spokesman admits. It consists of 215 sheets of paper representing securities held by the Old Age and Survivors Insurance and Disability Insurance funds. This winter, those paper instruments together symbolized $1.7 trillion in securities issued to the trust fund. As such, they're not really the sort of cash holdings you might intuitively think of when hearing about the Social Security trust fund. They're IOUs, but given that they're backed by the federal government, many people claim they're pretty much as good as real money.

The trust fund's paper certificates are locked in a fireproof safe — which looks more like a filing cabinet than a safe — in the Bureau of the Public Debt's operations center at the H.J. Hintgen Building in Parkersburg. Not that the safe gets a whole lot of attention. It sits outside somebody's office. The papers themselves are merely outputs from a standard office laser printer, signed by the division director for federal investments.

The reason the 215 pieces of paper exist is because of 1994 legislation that established the Social Security Administration as an independent agency. The law required the Treasury Department, which runs the Bureau of the Public Debt, to issue paper instruments to represent the trust fund's assets.

In the debate over overhauling Social Security, the significance of the fund has gained new importance. Official projections say that by 2017, the government will have to start tapping into the fund to fulfill its payment obligations to retirees. By 2041, the funds will have been used up. And presumably, the safe in Parkersburg will no longer contain those pieces of paper now ostensibly worth trillions of dollars. — Doug Campbell

ONLINE BANKING

Customer Satisfaction Rises, But Privacy Concerns Remain

Who would have thought 10 years ago that paying bills and monitoring account balances would be only a mouse-click away? It's taken a while, but more and more banking customers have moved from standing in line at the bank to doing business online in their home.

Forbes.com and the consulting firm ForeSee Results recently teamed up to release their second online banking study. They wanted to find out how comfortable customers are in conducting transactions online, and how banks might be able to increase the size of this market.

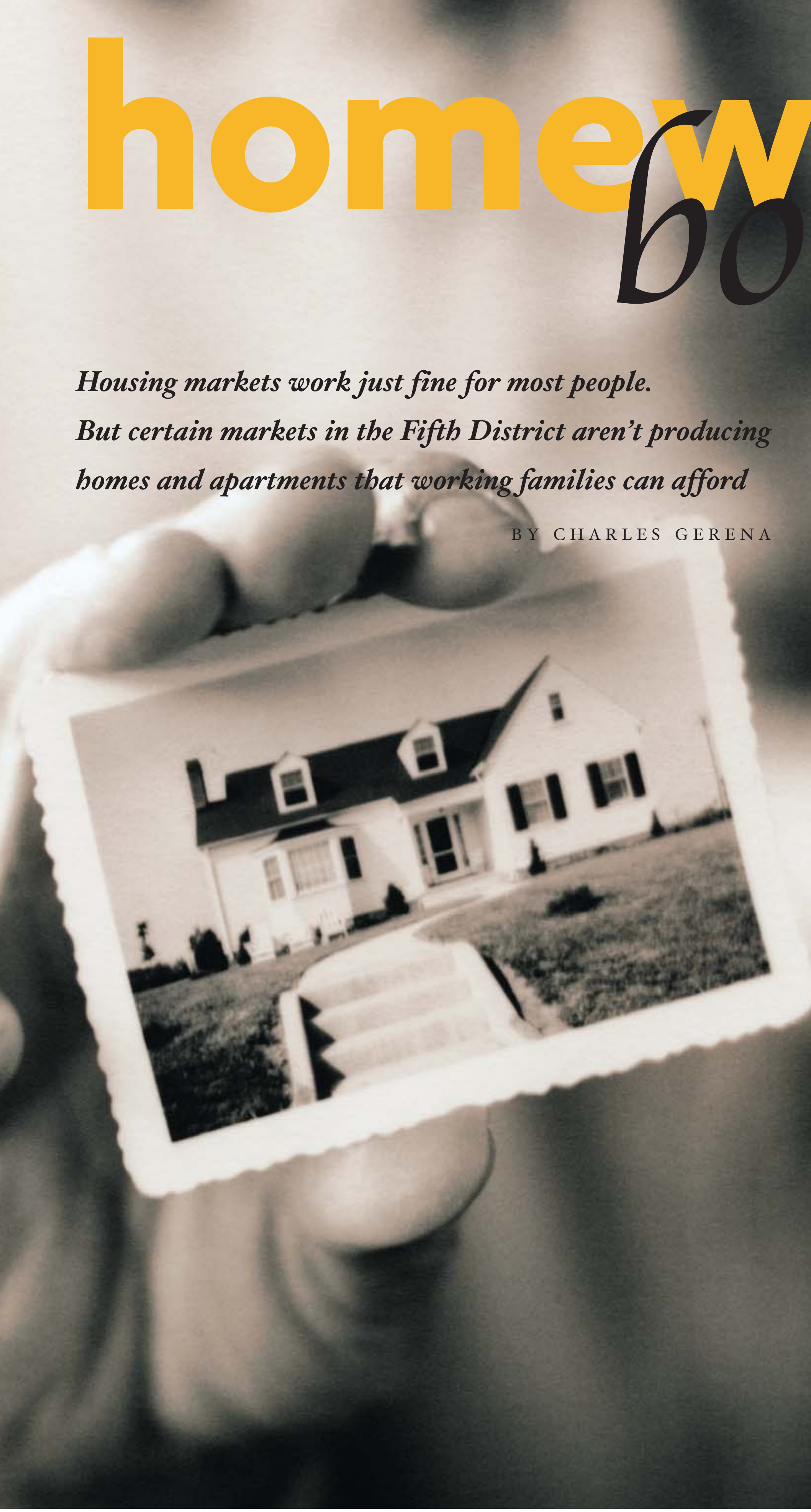
Overall, the report showed an increase in customer satisfaction, with a rise of 5.5 percent since the previous summer 2003 study. This is important because, according to the study, "satisfied" online customers are almost 40 percent more likely to purchase additional services. The rise in satisfaction might be attributable in part to effective marketing.

In general, customers are happier because online banking is becoming easier. The site needs to be relatively painless to navigate in order for customers to easily set up bill payment options, for instance. The reward for banks that create such sites is that satisfied customers tend to feel more "loyal" toward them. Also, online banking sites are often cheaper to maintain than traditional bricks-and-mortar banking establishments.

Though customer satisfaction has risen since the first study two years ago, certain challenges remain. Some sites remain stubbornly user-unfriendly. Privacy also remains a big obstacle with potential online bankers, who worry about the security of their personal information. Existing customers, however, feel comfortable with how banks manage confidential information. Improved education of the public on these concerns may help, the study says. In addition, banks must compete with other third-party payment outlets for the business of more savvy online consumers. Three-quarters of respondents reported paying bills online through a source other than their own bank.

In the end, the greatest challenge facing banks is to get more potential customers online, and then keep them there. Those people who feel comfortable doing business on the Internet have generally availed themselves of online banking opportunities. But this group makes up only 25 percent of all banking customers. That leaves a huge untapped market for banks to serve. — Julia R. Taylor

homeward bound



Housing markets work just fine for most people. But certain markets in the Fifth District aren't producing homes and apartments that working families can afford

BY CHARLES GERENA

Washington, D.C., radio stations reach far beyond the borders of the nation's capital. Their traffic reports provide vital guidance to drivers commuting from the outskirts of the metro area, from Charles County in southern Maryland (28 miles from downtown Washington), to Fredericksburg in central Virginia (52 miles away), to Jefferson County in the Eastern Panhandle of West Virginia (73 miles).

Most Washington workers live outside of the city, driving half an hour, on average, each way. Other suburbanites and rural residents throughout the Fifth District are well acquainted with interstate travel, working in one place and living somewhere else miles away in order to earn a better salary, benefit from a lower cost of living, or both. In the U.S. Census Bureau's 2003 population survey, about 2.6 million of the 40 million people who relocated did it because they were looking for a cheaper place to live.

There certainly isn't a lack of residential development — housing construction has been rising for years in both metro and nonmetro areas. The problem is the type of development that has occurred in certain housing markets. These markets emphasize larger, pricier homes for purchase over smaller homes and multifamily rental units that are less expensive to build and sell.

"In most places, the new construction is going for the high end of the market," says C. Theodore Koebel, director of the Center for Housing Research at Virginia Tech. "We're not building for the middle of the market, and we're certainly not building anything for below the middle." As a result, people at or near the median

PHOTOGRAPHY: MEL CURTIS/GETTY IMAGES

income cannot afford the median-priced home or apartment in a growing number of communities, while those further down the income scale are feeling the squeeze even more. "Home prices have moved closer to the median, whereas their incomes have not moved up toward the median," adds Koebel. "If anything, they have moved further away from the median."

Housing affordability has long been an issue for the poor and those on fixed incomes. People at the bottom are the least able to respond to price increases or relocate, and they have so few financial resources that it's hard to build shelter cheap enough for them to afford. Now, mounting housing costs are outrunning the earnings of working families as well, taking bigger bites from the paychecks of retail store employees, teachers, nurses, and other low- to moderate-income workers. Not adjusting for inflation, data from the Office of Federal Housing Enterprise Oversight and the National Association of Home Builders shows that house prices appreciated 78 percent from 1994 to 2004. National personal income increased only 64 percent during the same period.

In other words, affordable housing is a concern for wider segments of the U.S. population. The number of middle-income families devoting more than 30 percent of their income to housing grew from 3.2 million in 1997 to 4.5 million in 2001. This 41 percent increase exceeds the population growth in this income group.

What is behind the growing divide between what people can pay and what housing sells for? The leading candidate on the supply side of the market equation is the collision of rapid population growth with constrained residential development in regions like Northern Virginia. "The region is pretty heavily regulated in terms of land use, and that's true of the Washington metropolitan area in general," says Richard Green, director of George Washington University's Center for Real Estate and Urban Analysis. "When you have limits on supply, it means that increases in demand will show up in prices rather than in quantity."

Opening the door to more development wouldn't necessarily provide affordable options for all — it doesn't address demand-side factors that put housing outside of people's grasp — but it might reduce the number of people in need. Then, government agencies and nonprofit organizations could tackle housing affordability in a more targeted manner.

Where's the Problem?

When reporters and researchers examine housing affordability in a community, they often refer to the share of income that residents spend on putting a roof over their heads. The U.S. Department of Housing and Urban Development (HUD) considers an apartment or home to be unaffordable when expenses like rent, mortgage payments, and property taxes exceed 30 percent of earnings, since that leaves an inadequate amount of money to pay for other necessities like food, clothing, and health care.

For example, the median annual salary of a kindergarten teacher in the Washington, D.C., metro region is $48,396, according to surveys conducted by Salary.com. Thirty percent of that income would be $14,519, or $1,210 a month. Thus, teachers earning at the median could qualify for a $155,000 house, assuming they can get a 30-year loan at a 5.75 percent fixed interest rate and put down 10 percent of the price toward the down payment and closing costs. However, the D.C. region's median home price was $340,000 in the fourth quarter of 2004, and it hasn't been near the $155,000 mark since 1998.

Using income-cost ratios to gauge a neighborhood's housing affordability doesn't take into account individual preferences, though. "Some households may consider their housing a good deal even if they spend more than 30 percent of their income on it," noted Ron Feldman, an assistant vice president at the Federal Reserve Bank of Minneapolis, in an August 2002 working paper. "[They] may prefer to live in amenity-rich locations, with nice weather, for example. In such locations, the greater demand for housing would boost its cost."

Moreover, low-income people may make short-term sacrifices in their budgets so that their children can grow up in safer neighborhoods with better schools. Others, especially young people, may initially tolerate high housing costs relative to income if they expect their incomes to rise over their lifetimes. Economists say that such smoothing of consumption is common — people plan their present consumption based upon what they observe today and what they expect for the future.

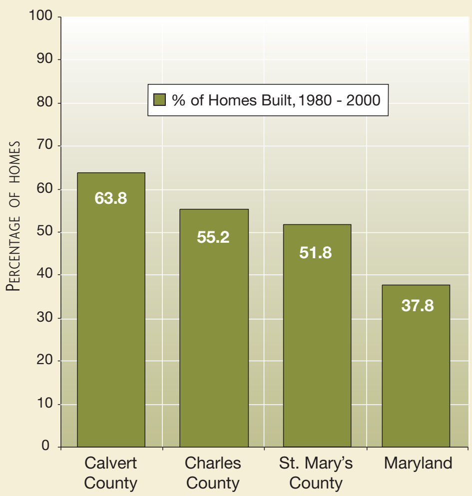
Using income-cost ratios also doesn't take into account the availability of credit. That's why Howard Savage, a researcher at the Housing and Household Economic Statistics Division of the U.S. Census Bureau, includes household assets in his reports on home affordability. "If they had to, people could sell some of their financial assets to buy a house," he says, or they can borrow against them. Therefore, when the cost of credit is cheaper, "people can afford to pay more. When interest rates get higher, which they will someday, they will be able to pay less than what they can now."

No matter how it is measured, housing affordability isn't a problem confined to notoriously expensive cities like New York or San Francisco. "People with critical housing needs [those who pay more than 50 percent of income on shelter] are more likely to be found in the Northeast and the West, but it's a growing problem in the South and the Midwest," notes Barbara Lipman, research director at the Center for Housing Policy in Washington, D.C.

Affordability can become an issue in any community where economic prosperity and residential development aren't in sync. For example, parts of the Baltimore region have done well economically, but housing development hasn't occurred in the same places, according to John Kortecamp,

Moving Up

In southern Maryland, there isn't a large supply of older housing stock to redevelop into affordable homes. More than half of the region's owner-occupied units were built in the last two decades in response to population growth.



SOURCE: U.S. Census Bureau

executive vice president and CEO of the Home Builders Association of Maryland. "The demand is not being met where the jobs are being created."

The city has thousands of vacant homes that could be redeveloped or torn down to make room for affordable housing. Yet crime and underperforming schools have resulted in population losses in these deteriorating neighborhoods, leaving behind lower-income residents who don't earn enough to pay even the most modest housing costs.

Meanwhile, smaller homes and multifamily units aren't being built outside of the city, where higher-income people have moved, because of community pressure to reduce density. As a result, "Every time a new project opens up, the prices get bid up substantially," says Kortecamp. Waterfront communities like Fells Point and Locust Point are being redeveloped for high-end buyers to take advantage of unmet market demand.

The Charlotte, N.C., metro area has experienced broader economic and residential development than Baltimore has. John Byers, president of the Charlotte Regional Realtor Association, describes a flurry of new housing in the city's downtown, especially condominiums, and redevelopment of older neighborhoods near downtown in response to the influx of new residents.

This rising demand has driven up prices. "If you are looking for the most bang for your buck, you may not live downtown," notes Byers. But more affordable options are available within a short drive from Charlotte's employment centers. He knows of several builders producing smaller, simpler homes for working families.

On the opposite end of the affordable housing spectrum is Washington, D.C. The metro region's economic growth has been strong, but the cost of residential development is so high in Virginia counties like Loudoun and Fairfax and Maryland counties like Charles and Calvert that only expensive projects go forward. The result is people driving an hour or more to West Virginia or central Virginia to find more affordable options.

The Supply Side: What Sellers Can Build

What has driven up the cost of residential development in these counties and in other communities, pushing housing costs beyond the financial means of some working-class families? Joseph Gyourko, a professor of real estate and finance at the University of Pennsylvania, believes that land is the culprit. "Construction costs have gone down over the last 20 years," while land costs have climbed in certain places.

One would expect that in areas with strong demand for housing, the marginal cost of acquiring land for development would increase as available space becomes scarcer. In recent papers, Gyourko and economist Edward Glaeser at Harvard University have argued that man-made scarcity — namely zoning rules, building codes and other regulatory constraints on residential development — is a bigger factor.

"If demand is going up in areas where you have restricted the ability to develop, you're going to get very high land prices," explains Gyourko. This makes it harder to build less expensive housing. "[Builders and developers] want to spread the fixed costs of those restrictions over a bigger base, so [markets] end up tilting toward a higher-value product."

Although most methods of regulating residential development add to housing prices, they have been utilized since the early 20th century to meet legitimate policy goals. For example, the outcry over poor families living in crowded, substandard tenements prompted lawmakers in New York and other cities to require that residential buildings have larger rooms, indoor plumbing, external windows, and separate hallways.

"The market would create some serious problems without some level of land-use planning," argues Virginia Tech's Theodore Koebel. "You might not have efficient use of certain locations."

Regulation of residential development also stems from a community's desire to discourage the construction of smaller homes, multifamily rental properties, and manufactured housing like mobile homes. Neighbors fear that these less expensive options will lower property values, even though numerous studies have cast doubt on this claim.

For instance, Charles County changed its land-use regulations in the late 1990s and early 2000s to address concerns over the type of housing being built to meet demand, according to the county's community development housing plan drafted in 2004. Officials increased the minimum size of townhouses and single-family, detached homes to 1,650 square feet, and imposed architectural standards such as requiring the use of brick exteriors. "The idea was to 'upscale' the housing styles," says Robert Tourigny, housing division administrator of an anti-poverty group called the Southern Maryland Tri-County Community Action Committee (SMTCAC). In the process, the new rules also upped development costs.

Communities also oppose dense development out of concern for crowded roadways and schools. Once a community is built out with relatively sparse, single-family development, it is difficult to rezone it to meet rising demand. SMTCAC lobbied Calvert County officials to change the zoning in its town centers to allow mixed-use development with housing above storefronts. "The county commissioners looked at us like we had two heads and were from Mars," says Tourigny.

With no land available to meet demand, development often spills into neighboring communities. "Those areas get hit with a lot of major development all of a sudden and are completely unprepared for it," notes Koebel. In turn, local officials may impose their own land-use restrictions.

This scenario has played out in the Washington, D.C., area — restrictions in Fairfax County pushed demand westward to Loudoun County, which implemented slow-growth measures in 1999 that pushed development farther west into Jefferson County, W.Va. (In March, the Virginia Supreme Court overturned Loudoun's slow-growth regulations, much to the satisfaction of the numerous property owners and developers who had protested the measures.)

Regardless of the motives, "land-use planning has to reasonably anticipate what future growth is going to be, and plan for that growth," says Koebel. When it leaves a lot of demand for housing unmet, prices can skyrocket and affordable options can evaporate.

The Demand Side: What Buyers Can Pay

Of course, supply-side factors aren't alone responsible for driving up the cost of residential development. Things also have been happening on the demand side. As long as some buyers and renters in a community are willing and able to pay higher prices, the market as a whole will bear those prices, even if some people can't.

Often, newcomers that aren't economically tied to a community distort housing prices. For example, workers from flourishing suburbs may migrate to urban and rural communities where their incomes are relatively high and the cost of living is relatively low so they can get the amenities they want. As a result, housing prices will rise, since newcomers will still consider them relative bargains. Meanwhile, many natives may be unable to keep up with rising prices and property taxes because there are few job opportunities around.

Back in southern Maryland, population growth has come from workers migrating from the District and

The Push to Homeownership

Enlarging the ranks of homeowners has been viewed as a way to bring stability to the finances of communities and individuals. At the same time, though, the push toward homeownership may be contributing to affordability problems in various housing markets.

First, the mortgage interest deduction and the exclusion of home price appreciation from capital gains taxes are only available to those who earn enough income to itemize deductions on their tax returns. Moreover, both tax breaks increase with the size of the house. Therefore, the people who benefit the most have higher incomes and own larger homes, thus orientating housing markets away from lower-income buyers looking for smaller properties.

Second, local officials and communities usually view converting multifamily rental units into for-sale condominiums or replacing them with single-family homes as supporting entry-level homeownership and higher property values. But conversions also reduce the supply of rental units. This helps apartment markets avoid a period of oversupply that requires owners to reduce their rents to attract tenants, which is good for apartment owners and developers. It's not so good for tenants because they never see prices fall and they are left with fewer affordable options.

So what if there is less rental housing available? In general, homeownership may not be appropriate for everyone. "With mortgage delinquencies and foreclosures at record levels … millions of poor families might have been better off today had they not chosen to purchase a home," noted an article in the January/February 2003 issue of *Shelterforce*, a publication of the National Housing Institute. "Lower-income families are more likely to borrow against the equity in their home, often at high rates, diminishing any accumulated wealth." And, they are more vulnerable to downturns in the real estate market since more of their wealth is tied up in their homes.

At one time, renting an apartment was something young couples did while saving money to buy a house or to avoid dealing with the overhead of homeownership. Now, there is a bias against renters. They are perceived as people with financial difficulties who could bring trouble. As a result, communities often oppose the approval of rental housing.

Meanwhile, developers seem less interested in serving renters on the low end of the income scale. For example, Gumenick Properties decided that three of its rental properties in Henrico County, Va., were "worn out" and "nearing the end of its useful economic life," according to spokesman Edward Crews. So, the Richmond-based firm has been demolishing the properties and replacing them with higher-quality apartments and townhomes, most of which are priced much higher than the original rental units were. In addition, it has built high-end for-sale units on these properties.

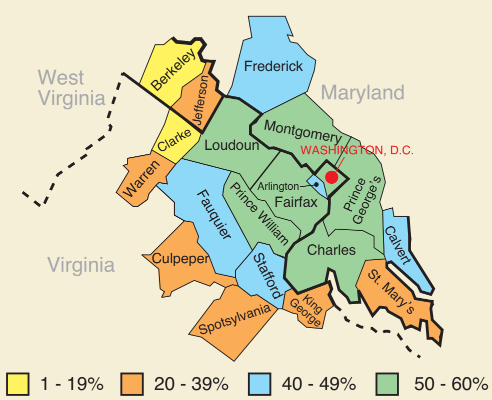
Gumenick's strategic plan reveals why the company chose this course. "The costs of servicing conventional construction loans and paying for normal operations, coupled with the extremely low profit margins for low-income houses, would force the company either to produce substandard structures or to lose money on the project. Neither alternative is acceptable." — Charles Gerena

Northern Virginia, as well as military and civilian workers transferred to Patuxent River Naval Air Station in St. Mary's County as part of the Pentagon's recent base realignments and closures. Contract workers with defense firms have also moved to the region. All of these people have brought their higher wages with them, along with a demand for higher-quality housing. "It really tightened the market to the point where local service workers just couldn't find housing," Tourigny says.

Jefferson County is in the same predicament. Out-of-towners have transformed a traditionally agrarian community with some light industry into a middle-class refuge that stands in stark contrast with the majority of West Virginia. "There are more young families with larger incomes and college educations moving into the Eastern Panhandle," says Topper Sherwood, a consultant for the regional office of Habitat for Humanity. "The bad news is that they are, by and large, linked to jobs in and around Washington." Today, 50 percent of Jefferson's residents commute outside of the county's borders.

In Search of Cheaper Housing

Housing affordability isn't just a problem for the poor. Middle-income workers have had to move miles away from the central core of the Washington, D.C., metropolitan area to find housing that doesn't overwhelm their budgets.



Percentage of Middle-Income Households That Pay More Than 30% of Earnings on House-Related Costs

NOTE: Middle-income households were those earning between $35,000 and $49,999 a year.
SOURCE: U.S. Census Bureau, 1999

Well-heeled retirees, investors in seasonal housing, and second-home buyers can have a similar effect when they enter housing markets. Residents in Charleston, S.C., complain about the impact of "drive-by neighbors," wealthy people who have been renovating historic properties into coastal retreats. Their demand has worked hand in hand with local restrictions on new development to drive up property values beyond the reach of longtime residents.

This contributes to a lack of "filtering." Housing experts expect people to move up to better homes in more desirable communities as their financial status improves, leaving behind older homes in less desirable areas or rental units that others with lower incomes can move into. However, refugees from hot housing markets can rapidly bid up prices as they compete for these latter properties.

Filtering may fail to occur for other reasons. Some homeowners may not want to upgrade. They may live in a nice place and have no mortgage to pay. Or, they may be unable to afford a move, even if they sell their home for a tidy profit, because housing prices are rising sharply.

Another demand-side factor that has supported higher housing costs is the wider availability of cheap credit. "Prices have gone up very dramatically in many areas [but] low interest rates have significantly dampened the effect of those increases," says Virginia Tech's Koebel. Also, "we've got a tremendous amount of new mortgage products" that give borrowers more flexibility and allow them to have a higher loan-to-value ratio.

Still, not everyone qualifies for favorable mortgages, if any. And credit won't be cheap forever. Real estate economists expect mortgage rates to rise from 45-year lows later in 2005, affecting housing affordability in the future.

Finally, while median earnings have kept up with housing costs in the aggregate, not everyone in a community earns the median. Lower-skilled, lower-income workers have experienced slower wage growth than those who are at the median and above, excluding noncash government benefits. Also, certain occupations have suffered from stagnant wage growth at various times, including nursing, teaching, and social work.

Below the Median

For most of American history, markets met the demands of lower-income people seeking housing, although not always in ways that everyone considered socially acceptable. In cities, boarding houses, low-rent apartment buildings, and single-room occupancy hotels were available for people climbing from the bottom rungs of the economic ladder. Owners of commercial buildings would add apartments on their upper floors, while immigrant families would build simple homes like the brick bungalows of Chicago or the Polish flats of Milwaukee.

Many of these options disappeared in the 20th century when local officials, with the help of federal funding, tore down blighted areas as part of broad urban renewal projects. To fill the need for low-cost housing, governments began building their own.

The construction of federal public housing began in the 1930s and continued through the '70s. But by the 1990s, this model was widely considered a failure because it removed the incentive for private parties to come up with affordable alternatives. It also concentrated poorer people into high-rise buildings and sprawling low-rise complexes, many of which were mismanaged and riddled with criminal activity. Now, governments on all levels have shifted gears by spurring others to develop and operate affordable housing for those people whose incomes fall below the median.

Some localities and states offer property tax breaks to developers, usually nonprofit groups, in exchange for building affordable projects and maintaining their pricing for a minimum number of years. (HUD offers Low Income Housing Tax Credits that provide a 10-year reprieve from federal taxes for investors in affordable housing.) Others create housing trust funds to finance affordable housing, using development fees and other taxes as sources of revenue, or provide below-market construction loans to reduce development costs. Banks also provide such loans to fulfill their legal obligation to meet the credit needs of all areas from which they draw deposits.

But such efforts to subsidize housing development carry risks. "Any financing that distorts the market creates some problems," says Moises Loza, executive director of the Housing Assistance Council, a Washington-based nonprofit group that examines affordable housing issues in rural areas. Some economists say that subsidized development can discourage private investment in building new housing or keeping existing units in the market.

Another approach is to impose inclusionary zoning on a community. Pioneered in Montgomery County, Md., 30 years ago and used throughout the Washington, D.C., metro region, this regulation requires a new residential project to include units that are affordable to people at a particular income level (usually a percentage of median income) for a specified period (often 10 years or more).

To help prevent the developer from raising the prices of the other units to make the project's numbers work, Montgomery and other municipalities provide "density bonuses" that allow more units to be built than the project's zoning normally permits. Developers may also get fast-track permitting, fee waivers, or exemptions from growth controls.

A commuter bus carries Charles County, Md., residents from this Park and Ride to their jobs in Washington, D.C., every morning.

Inclusionary zoning has succeeded in creating additional supply in some areas — more than 10,000 affordable units were produced in Montgomery County between 1974 and 2001. However, if the factors that are driving up home prices aren't dealt with separately, even the affordable units that the builder was required to construct will go up in value, says Howard Savage at the Census Bureau. When the units are open for purchase by any buyer, they will likely be sold at market prices, eroding the supply of affordable housing. "It doesn't get turned over to other people who are poor. It gets renovated and the people who have high incomes buy it," Savage says.

Ultimately, lowering the bar for residential development will likely be the most effective way to increase the supply of housing to include units for low- and moderate-income households. That would require a slowing or reversal of policies meant to curb sprawl and guard property values. Then, some form of rent subsidization, like HUD's Housing Choice vouchers, could be provided for the lowest income families who still couldn't afford housing. Also, if the real concern is with people devoting too much of their incomes to housing, the Minneapolis Fed's Ron Feldman suggests that governments provide direct assistance to help cover other basic needs.

Meanwhile, working families are finding ways to cope. For one thing, they may decide to spend more on housing at the expense of other things in the household budget. In extreme cases, this could mean paying the phone bill late or skimping on a grocery trip. Usually, it means foregoing some things in the short term in order to meet their long-term housing needs.

Others have saved money by purchasing manufactured homes. Once epitomized by a flimsy trailer parked on cinderblocks, this category of housing has vastly improved in quality while remaining cheaper to produce and purchase than site-built homes. As a result, many rural residents have used this route to homeownership — North Carolina, South Carolina, and West Virginia are among the five states in the nation with the highest share of housing units that are built off-site.

For those who are prepared to give up their neighborhood ties and shoulder the costs of relocating, families can search for affordable housing elsewhere. "People [who] are paying large amounts of their income for housing ... reach a point where they can't do that anymore and they move," says Savage. It is this migration that has shaken up so many housing markets across the country. **RF**

PHOTOGRAPHY: CHARLES GERENA

Readings

Collins, Michael, David Crowe, and Michael Carliner. "Examining Supply-Side Constraints to Low-Income Homeownership." Working Paper LIHO.01-5, Joint Center for Housing Studies, Harvard University, August 2001.

Crowe, David, et al. *Where is Workforce Housing Located? A Study of the Geography of Housing Affordability*. Washington, D.C.: National Association of Home Builders, 2004.

Feldman, Ron. "The Affordable Housing Shortage: Considering the Problem, Causes, and Solutions." Federal Reserve Bank of Minneapolis Banking and Policy Working Paper 2-02, August 2002.

Glaeser, Edward L., Joseph Gyourko, and Raven E. Saks. "Why Have Housing Prices Gone Up?" National Bureau of Economic Research Working Paper no. 11129, February 2005.

Lipman, Barbara. *Paycheck to Paycheck: Wages and the Cost of Housing in the Counties, 2004*. Washington, D.C.: Center for Housing Policy, 2004.

Treskon, Mark and Danilo Pelletiere. *Up Against a Wall: Housing Affordability for Renters*. Washington, D.C.: National Low Income Housing Coalition, 2004.

Visit **www.richmondfed.org** for links to relevant sites and supplemental information.

searching for the hidden economy

Economists believe as much as 10 percent of the U.S. economy is "underground." Is that such a bad thing?

BY DOUG CAMPBELL

Here is the brief, unremarkable story of how I recently came to participate in the underground economy:

Midafternoon on the iciest day this past winter, a man knocked at my front door. "Shovel your walk?" he asked. "Only $5."

Outside, it was a bone-chilling 15 degrees. "Sold," I said. A half-hour later I handed over a five-dollar bill and thanked him for saving me the trouble.

Officially, this was an unofficial transaction — off the books, with no taxes paid or safety regulations followed. (At least, I assume this hired hand didn't bother to report that income or register with the proper authorities.) As such, it was technically illegal. And, of course, it's the sort of thing that happens all the time.

The size of the official U.S. economy, as measured by Gross Domestic Product (GDP), was almost $12 trillion in 2004. Measurements of the unofficial economy — not including illegal activities like drug dealing and prostitution — differ substantially. But it's generally agreed to be significant, somewhere between 6 percent and 20 percent of GDP. At the midpoint, this would be about $1.5 trillion a year.

Broadly defined, the underground, gray, informal, or shadow economy involves otherwise legal transactions that go unreported or unrecorded. That's a wide net, capturing everything from babysitting fees, to bartering home repairs with a neighbor, to failing to report pay from moonlighting gigs. The "underground" label tends to make it sound much more sinister than it really is.

Criminal activities make up a large portion of what could be termed the total underground economy. Many studies have been done on the economics of drug dealing, prostitution, and gambling. But because money from crime is almost never recovered, many policymakers are more interested in portions of the underground economy that otherwise would be legal if not hidden from authorities. Things like shoveling walks.

Despite its intrigue, the informal economy's importance and consequences remain in debate. The reason: "You're trying to measure a phenomenon whose entire purpose is to hide itself from observation," says Ed Feige, an economist at the University of Wisconsin.

This uncertainty poses problems for policymakers. Without knowing the precise size, scope, and causes of the underground economy, how can they decide what — if anything — to do about it?

Was the man who shoveled my walk engaging in a socially positive or negative activity? Was I? Suffice it to say, some economists have dedicated their entire careers to answering questions about the underground economy — and still there is nothing close to a consensus about its size or description.

Elusive Definition

Friedrich Schneider, an economist at the Johannes Kepler University in Linz, Austria, defines the informal economy as: "All market-based legal production of goods and services that are deliberately concealed from public authorities for the following reasons: 1) to avoid payment of income, value added, or other taxes 2) to avoid payment of social security contributions 3) to avoid having to meet certain legal labor market standards,

ILLUSTRATION: AILSA LONG

such as minimum wages, maximum working hours, safety standards, etc., and 4) to avoid complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms."

In Schneider's latest study, the U.S. informal economy — or "shadow economy," as he calls it — is pegged at 8.4 percent of GDP. His estimate was derived using a combination of two estimation methodologies: one that measures demand for currency and another a mathematical model that seeks to consider multiple causes of the underground economy as well as its multiple effects.

Other approaches include examining the discrepancy between spending and income, as claimed in tax filings; the gap between the official and actual labor force; and comparing electricity consumption with reported economic activity. Using a variety of methods, even the keepers of the national accounts, which produce GDP figures, try to tally the impact of the unreported economy in estimating the official economy.

Ed Feige, the University of Wisconsin economist, favors methods that study cash stocks and flows. His research focuses on the "unreported economy," which involves transactions whose purpose is to evade taxes. His latest work puts the 1993 unreported economy at $700 billion.

None of these approaches is perfect or precise. "To some authors, the whole exercise is doomed to failure," writes English economist Huw Dixon in a 1999 introduction to a series of journal articles about the underground economy. "If we have no direct measure, then indirect measures are likely to be no better than guesstimates, which should be taken at best as interesting novelties."

Given the level of doubt about the size of a nation's overall underground economy, it's no wonder that regional estimates are hard to come by. The Internal Revenue Service studies tax evasion on a national level and in 1998 quantified revenue losses at $195 billion — most of that believed to be the result of the transactions taking place in the underground economy. But there exists no state-by-state study of tax evasion, largely because politicians representing their districts don't want that kind of information released.

This makes it risky to attempt approximations of a region's underground economy. If you trust Schneider's work, you might make a simple extrapolation: The Fifth District's economy is valued at about $1 trillion a year, as calculated by adding up each "gross state product." That's about 10 percent of the overall U.S. GDP. So if the Fifth District's black market is in proportion with Schneider's estimate for the rest of the nation's, then we can estimate that the region's underground economy is worth about $84 billion.

Whether the informal economy is more active in rural or urban settings also remains to be settled. Shanna Ratner, an economic development consultant who studies informal economies in rural settings, thinks they're close to equal. Conditions like poverty and economic immobility — considered likely features of many informal economies — prevail in both inner-city and back-country environments. Farmers looking for a competitive edge are just as likely to hire illegal immigrants as inner-city warehouse managers.

Observers like Ratner are reluctant to judge those participating in informal economies, be they employers or hired hands. "I don't think it is in itself either a good thing or a bad thing," Ratner says. "It has to be viewed in context. When the informal sector results in activities that strengthen social capital, because they're relationship-based, one could argue that's a good thing. When the informal sector activities are illegal because they're harmful ... then that's arguably a bad thing." In a 2000 paper about the informal economy, Ratner cited instances of home-based production (everything from arts and crafts to laundry) as a crucial means to "close the gap between wages and human needs and wants."

Looking for the Underground

To get a better idea of how a full-fledged underground economy operates, I went to Floyd, Va. On paper, Floyd looks like just the sort of place where a rural-style informal economy should be thriving. Here is an Appalachian community with a rich history of barter. Writing about life just across the border in West Virginia, historian Paul Salstrom described it this way: "Appalachia's main economic anomaly was that distributive relations remained less monetized there; they remained composed more of bartering and borrowing." A short drive away is Abingdon, Va., home of the "Barter Theatre," founded in the 1930s as a place where local farmers could swap their crops for admission to a play.

There is no interstate coursing through Floyd. Its downtown is crisscrossed only by two-lane highways. Median family income in the county is $38,128 compared with $54,169 among all Virginia counties. Even in the relatively poor New River Valley, Floyd County stands out with its low taxable sales base, bank deposits, and high poverty rate. There has been a flight of manufacturing employers, creating more unemployed and underemployed people seeking work wherever they can get it, even if it's off the books.

David Rundgren, executive director of the New River Valley Planning District Commission, says on-the-side economies are part of Floyd's culture. "Throughout history these folks have been fairly independent and trading work with each other," Rundgren says.

For me, the big draw to this town were "Floyd Bucks" — Floyd's own currency. Officially called the "Floyd Hours," blue-colored bills were printed in 2002 by a nonprofit group whose aim was to "make a statement in support of our local economy," says Dawn Shiner, founder of Floyd's community currency effort. A "one-hour" bill is pegged to an estimated value of one hour's worth of labor, or $10. There are also quarter-hour bills valued at $2.50.

Informal economies do not require their own currencies. Indeed, most transactions in the informal economy

Locals call them "Floyd Bucks," but these bills are officially called Floyd Hours. A small group of residents in Floyd, Va., printed their own currency as part of an effort to keep business local.

probably are done in official U.S. currency, and those conducted in alternative currencies are supposed to be subject to taxes. And what I actually found in Floyd was an environment not unlike any small town across the United States: Sure, people are independent and will trade goods and services when it suits them, but U.S. currency and regulated work far eclipse the underground economy.

At the Harvest Moon, which locals refer to as the health food store, owner Margie Ryan says that in principle, she likes to barter whenever possible. In practice, it's not so easy, which is why she stopped accepting "Floyd Bucks."

"It's part of the overall culture of working together to get things done," Ryan says. "But everybody wanted to use those bills here, and I don't need so many labor hours. I need to pay my bills."

A quick survey of downtown retail establishments in Floyd revealed similar sentiments. From the hardware store to an art gallery, the answers were the same. A hostess at Mama Lazardo's Pizza summed it up: "I have 'em, but I have no way to spend 'em."

Shiner modeled the Floyd Hours after upstate New York's Ithaca Hours, the most successful community currency in the United States. More than $105,000 in Ithaca Hours have been issued since 1991, and an estimated 400 businesses in the region accept them. "Community currency systems are excellent tools to help revitalize local economies since they encourage wealth to stay within a community rather than flowing out of it," Ed Collom, a University of South Maine professor, wrote in a recent article.

Floyd Hours haven't enjoyed nearly that level of success. Shiner guesses that only $500 in Floyd bucks was ever printed. Originally, there was a directory of some 20 business establishments that accepted them; today, none are known to.

"In this culture it's hard to expect any of us to just use local currency," Shiner says. "It's a supplemental thing. It's a statement saying 'I believe in my region,' a way to facilitate more exchange and a way to help others know what's available in our region." The fact is, Floyd's currency, like its informal economy, is hard to detect.

The Other Path

Those concerned about underground economies point to nightmare scenarios like the one captured in Hernando de Soto's book *The Other Path*, which described how burdensome government regulations in Peru spawned an underground economy that encompassed 38 percent of GDP.

Enrique Ghersi, de Soto's coauthor in Spanish-language versions of the book, defined this informal economy as entailing "activities that do not intrinsically have a criminal content, but must be carried out illicitly, even though they are licit and desirable activities for the country … Thus, from an economic point of view, the most important characteristic of informal activities is that those directly involved in them as well as society in general benefit more if the law is violated than if it is followed."

Almost 20 years after describing Peru's plight, economists generally agree that the shadow economy is worse in developing nations, whose webs of bureaucratic red tape and corruption are notorious. For instance, Schneider in 2003 published "shadow economy" estimates (defined broadly as all market-based, legal production of goods and services deliberately concealed from the authorities) for countries including: Zimbabwe, estimated at a whopping 63.2 percent of GDP, Thailand's at 54.1 percent, and Bolivia's at 68.3 percent. Among former Soviet bloc nations, Georgia led the way with a 68 percent of GDP shadow economy, and together those nations had an average 40.1 percent of GDP underground. This contrasts with an average of 16.7 percent among Western nations.

Some of Schneider's estimates of the size of the underground economy are controversial; critics say that he has jumbled different definitions of the underground economy in his estimates and sometimes not matched measurement methods, thus making comparisons less meaningful. But few quibble with his reasons for paying attention to the underground:

- If it's growing, it may be a "reaction of individuals who feel overburdened by the state." As a result, they choose to dodge the taxes or safety regulations or licensing requirements that the state imposes, instead joining the underground. In this kind of world, the official economy declines, often leading to budget deficits and climbing tax rates.
- Official statistics — like GDP — may be rendered less useful if they don't really capture the breadth of economic activity.
- It could be used as an unfair competitive advantage. Employers who hire undocumented immigrants under the table, for example, enjoy cost advantages over firms that properly report their employees and pay taxes on them.

In a 2004 paper, the McKinsey Global Institute found that countries with big informal economies suffer productivity losses. That's basically because the smaller firms that participate in the shadow world never gain the scale and complexity of their official competitors, whose own operations are hampered by the existence of their under-the-table rivals.

"The powerful incentives and dynamics that tie companies to the gray economy keep them subscale and unproductive," researcher Diana

Farrell wrote. "Second, the cost advantages of avoiding taxes and regulations help informal companies take market share from bigger, more productive formal competitors."

Farrell's solution: Wake up, official economy! She advocates strengthening enforcement, eliminating red tape, and cutting taxes. "Persistent myths keep developing countries from addressing the informal sector," she writes. "Yet diminishing its size would, in almost every case, remove barriers to growth and development and generate sizable economic gains."

But What about Here?

Not surprisingly, the Internal Revenue Service has an interest in the underground economy. In recent papers, Kim Bloomquist, senior economist with the IRS, has aimed to shoot down theories that this nation's tax code is to blame for a large portion of the informal economy. Acknowledging that tax evasion is on the rise, Bloomquist asks the obvious question: "If neither increasing complexity nor a rising tax and regulatory burden can adequately explain the growth in noncompliant behavior, what else could account for this phenomenon?"

His short answer: There's been a general shift away from more visible to less visible sources of income. Where this plays out most frequently is in the wealthiest and poorest U.S. households. The middle class — people with 9-to-5-sort-of jobs — is extraordinarily well-documented, with few easy opportunities to avoid paying taxes. By contrast, high-income households collect a larger percentage of their income in the form of "nonmatchable" income, which is money not subject to third-party information reporting and withholding (like typical wages, dividends and social security benefits). Taxpayers in the top 5 percent of the income distribution account for more than 77 percent of this nearly "invisible" income, Bloomquist says.

On the other end of the scale, the poorest Americans are more likely to deal in cash and thus less likely to be subject to third-party reporting.

These trends worry economists like Bloomquist, especially as income inequality widens in the United States. "Further polarization of the nation's income distribution could act to undermine current and future tax-enforcement efforts," he wrote in a 2003 paper.

Meanwhile, the informal economy cruises along. Nobody is terribly exercised about scrip currency in Floyd. Neither myself nor the guy who shoveled my walk fear reprisal from authorities. And we are arguably better for it: There was an immediate demand for a shoveled walk and he offered the supply. Talk about efficient.

Feige, the University of Wisconsin economist, strives for clarity. He scorns studies that lump the unreported, unrecorded, and illegal economies together without explaining their distinctions. He believes much of the research on informal economies suffers because of authors' failures to stick to uniform definitions of what constitutes "underground."

And though he considers the problem of unreported, unrecorded, and informal economic transactions to be worse in developing countries, he is not so fast to write off the United States' experience as inconsequential. "Shifting the burden to honest taxpayers has significant implications," he says. Schneider, the Austrian economist, is of two minds about the U.S. underground: "A very difficult question," he says. "I think a shadow economy of 10 percent, which leads to additional value added has an overall positive effect on the welfare of the United States." But a case can be made that tax losses from even a 10 percent shadow economy are too great for the state to ignore, he adds.

In his 2003 book, *Reefer Madness: Sex, Drugs and Cheap Labor in the American Black Market*, investigative writer Eric Schlosser invokes Adam Smith's "invisible hand" theory that men pursuing their own self-interest will generate benefits for society as a whole. This invisible hand has produced a fairly sizable underground economy, and we cannot understand our entire economic system without understanding how the hidden underbelly functions, too. "The underground is a good measure of the progress and the health of nations," Schlosser writes. "When much is wrong, much needs to be hidden." Schlosser's implication was that much is wrong in the United States. If he had taken a more global view, he might have decided relatively little is hidden here. **RF**

Readings

Bloomquist, Kim. "Tax Evasion, Income Inequality and Opportunity Costs of Compliance." Paper presented at 96th Annual Conference of the National Tax Association, Chicago, November 2003.

de Soto, Hernando. *The Other Path: The Invisible Revolution in the Third World*. New York: Harper & Row, 1989.

Dixon, Huw. "Controversy: On the Use of the 'Hidden Economy' Estimates." *Economic Journal*, June 1999, vol. 109, issue 456, pp. 335-380.

Feige, Edgar. "Overseas Holdings of U.S. Currency and the Underground Economy." Economics Working Paper Archive at Washington University, St. Louis, January 2005.

Ratner, Shanna. "The Informal Economy in Rural Community Economic Development." TVA Rural Studies Contractor Paper 00-03, February 2000.

Schlosser, Eric. *Reefer Madness: Sex, Drugs and Cheap Labor in the American Black Market*. Boston: Houghton Mifflin Co., 2003.

Schneider, Friedrich. "The Size of the Shadow Economies in 145 Countries All over the World: First Results over the Period 1999 to 2003." IZA Discussion Paper no. 1431, December 2004.

Visit **www.richmondfed.org** for links to relevant sites and supplemental information.

sticky situation

Some prices are slow to change.

Are they sticky enough to affect monetary policy?

BY DOUG CAMPBELL

Even if you're not familiar with the term "sticky prices," you encounter them all the time. How many years has your newspaper sold for 50 cents a copy? No matter if interest rates are moving up or down, the price of your newspaper hardly ever changes — it's sticky.

Economists take for granted that some prices are rigid, slow to shift even as supply and demand conditions might seem to warrant. For many economists, these "nominal frictions" are enormously important, a core reason why monetary policy matters.

For other economists, however, sticky prices are neither widespread nor meaningful in the slightest for public policy.

Differences of opinion are humdrum stuff in economic circles. But on the issue of sticky prices, the level of disagreement is sharp and raises some exceptionally high stakes. Economists build mathematical models that are supposed to help policymakers decide when and how much to change interest rates. In recent years, sticky-price models have gained currency and are being used to inform Fed decisionmakers in setting interest rates.

But if sticky prices don't really matter for monetary policy, as some prominent economists theorize, then what use are sticky-price models to the Federal Reserve System?

More to the point: If sticky prices don't matter, does the Fed?

The behind-the-scenes debate about the importance of sticky prices is going on at the uppermost levels of economic thinking. Ben Bernanke, a Fed governor on leave from Princeton University's economics department, referred optimistically to the evolution of sticky-price models in a 2004 speech: "The insights from these types of modeling efforts are already informing policy analysis at the Board, and their influence will only grow as they become more detailed and realistic."

But where Bernanke sees promise in sticky-price models, others see inescapable flaws. Patrick Kehoe, monetary adviser at the Minneapolis Fed — whose president, Gary Stern, is a voting member in 2005 on the Federal Open Market Committee — suggests that economists ditch further research on sticky-price models. "No one has really yet made a convincing quantitative case for them," he says.

It is difficult to predict when, if ever, a resolution will happen. But how the sticky-price debate is settled may have significant implications for public policy.

A Sticky-Price Illustration

At the supermarket, the price of a box of brand-name cornflakes seldom fluctuates. For months it may be $2.49, perhaps going on sale for $1.99. As long as it stays at within those two bounds, the price of cornflakes is considered sticky.

Intuitively, you might expect more frequent price changes for a box of cornflakes. Say it was a bumper crop year for corn — shouldn't the price of cornflakes then fall because of the increased supply? But for microeconomic reasons they don't budge. Firms must weigh factors like "menu costs" — literally, the cost of setting new prices as on a restaurant menu — and the psychological impact on customers who are accustomed to the old price. Simply put, prices tend to change only when it's financially advantageous for the producer to do so. Similar reasoning can be applied to changes in workers' wages.

The fact that prices don't continuously move is believed by many economists to be the key insight into how monetary policy can affect the economy. It is an underlying justification for so-called "monetary nonneutrality" — that is, why money matters. This is in contrast to "monetary neutrality," which posits that an increase in the money supply would simply be offset by rises in prices and wages.

When the Fed sets policy for the federal funds rate, it is influencing the growth of the money supply. If prices weren't sticky, and in the absence of other frictions, then theoretically the Fed's actions wouldn't matter for economic output. Put another way, if there's more money available with no change in prices, then consumers theoretically will buy more cornflakes. Cornflakes seem cheaper in this scenario. Conversely, if there's less money in circulation, shoppers will dial down their cornflake purchases since their price now seems high. Because prices don't

ILLUSTRATIONS: AILSA LONG

immediately adjust, the Fed's behavior has the potential to affect the real economy.

The degree to which some economists believe prices are sticky tends to shape their beliefs on monetary policy. Sticky-price fans tend to be more optimistic about the potential importance of monetary policy, while sticky-price disbelievers often view monetary policy choices as relatively unimportant. At the same time, both sides are inclined to agree that price stability is the most desirable outcome of monetary policy — and generally don't subscribe to the old Keynesian notion that the central bank should use monetary policy to try to fine-tune the economy. It's just that sticky-price believers view monetary policy as effective because of the existence of sticky prices; the skeptics see monetary policy's powers as more wrapped up in how successful the central bank is at communicating its intentions and not surprising the market with wild fluctuations in interest rates.

Today, macroeconomists rely on intricate economic models to examine the impact of the money supply on the real economy. Those models in turn inform policy deliberations of the Federal Open Market Committee. There now exist two main schools of thought: one that thinks sticky prices matter and any modeling that doesn't use them will produce misleading results; the other that sticky prices don't matter and that standard real-business-cycle models work just fine, thank you very much.

These camps are neatly encapsulated in the views of two leading economists: Jordi Galí and the aforementioned Patrick Kehoe. In between is Alex Wolman, an economist with the Federal Reserve Bank of Richmond whose sticky-price research is widely cited.

The Believer

Galí is a professor at the Universitat Pompeu Fabra in Barcelona, Spain, who has concentrated on monetary policy and the business cycle. He is a passionate believer that sticky prices play an important role in explaining how monetary policy works.

"Not only do they matter but they are probably the single most important reason why monetary policy plays such a central role in modern economics," Galí says. "In the absence of nominal frictions, monetary policy would be largely irrelevant and inflation and its costs a secondary concern at most." With that theoretical underpinning, Galí is forging ahead with research on the interaction between sticky prices and monetary policy rules.

Much of his work seems to debunk long-held views about how the business cycle works. For example, Galí and two co-authors argued in a recent paper that it's because of sticky prices that increased government spending may actually raise consumption among forward-thinking consumers.

This is in contrast with the prediction of standard "neoclassical" economic models, which suggest that such expenditures may not have this effect because individuals are foresighted and recognize that a government that increases spending today will likely have to decrease spending or raise taxes in the future; as a result, those consumers do not necessarily alter their consumption patterns. While Galí and his neoclassical colleagues may disagree over the empirical effects of increased government spending, both sides caution that economic analysis alone cannot determine whether such spending is desirable.

The Skeptic

Over at the Minneapolis Fed, Patrick Kehoe is doubtful. In reviewing the past two decades' work on sticky-price models, Kehoe sees rampant shortcomings. No work, he says, has succeeded in replicating output blips like those seen during the Great Depression. "Most people who play the sticky price game don't try to account for episodes in the data," Kehoe says. "The way the monetary literature has gone recently, they seldom ask serious questions like that."

Product/Services	Average No. of Months Between Price Changes
Newspapers	29.9
Haircuts for men	25.5
Beauty parlor services	22.9
Film processing	18.2
Cemetery lots	13.5
Paint	7.0
Computer software	5.5
Prescription drugs	5.4
Pet food	5.2
Beer	4.3
Cigarettes	4.1
Jewelry	3.7
Cereal	3.4
Women's footwear	3.0
Lunch meats	3.0
Ice cream	2.7
Frozen orange juice	2.4
Roasted coffee	2.2
Bananas	1.8
Women's dresses	1.5
Eggs	1.0
Airline fares	0.9
Tomatoes	0.8
Unleaded gasoline	0.6

SOURCE: Data selected from Bils and Klenow (2004)

As ammunition, Kehoe points to some recent research on just how *un-sticky* prices in the U.S. market really are. In 2002, Mark Bils of the University of Rochester and Peter Klenow of Stanford University first reported findings from their look into a new trove of data: previously unpublished information on individual consumer prices collected by the Bureau of Labor Statistics. In aggregate, those data make up the consumer price index, compiled by government employees who literally observe prices of hundreds of individual products, from groceries to magazines, store by store. Bils and Klenow got special permission to review the micro-data on prices and concluded that these prices actually change quite frequently, on average about every four months. That doesn't seem so sticky, Kehoe argues. Additionally, Kehoe cites new research suggesting that when prices change, they do so in big chunks, much bigger than relative to what you'd expect based just on money shocks.

Thus to Kehoe, much of the work

on sticky-price models is pointless. Unable to produce results that match actual economic data, sticky-price enthusiasts are reduced to weakly arguing that their models can account for what happens after a monetary shock while admitting that monetary policy, broadly defined, accounts for only a tiny fraction of the business cycle, Kehoe says. "If that's true, then why are we looking at it in the first place?" he asks with exasperation in his voice.

Galí counters the criticism that sticky-price models don't explain periods like the Great Depression by referring to new variations of sticky-price models that have been enriched with features like habit formation and capital adjustment costs. In these models, "It is much easier to generate persistent output fluctuations, even in response to monetary policy shocks," he says. Equally, Galí argues that just because he believes in the power of sticky prices doesn't mean he thinks they're the only important factor in the economy. "The fact that nominal rigidities play an important role in the economy does not necessarily imply that monetary policy shocks should be an important source of fluctuations; there are other shocks in the economy."

The Moderate

On the matter of sticky prices, the Richmond Fed's Alex Wolman is something of an agnostic. Wolman got in on the ground floor of modern sticky-price modeling through his serendipitous association with Robert King, then a professor at the University of Virginia, where Wolman was a Ph.D. student. King — now at Boston University and a consultant to the Richmond Fed — was at the forefront of incorporating sticky prices into equilibrium business cycle models.

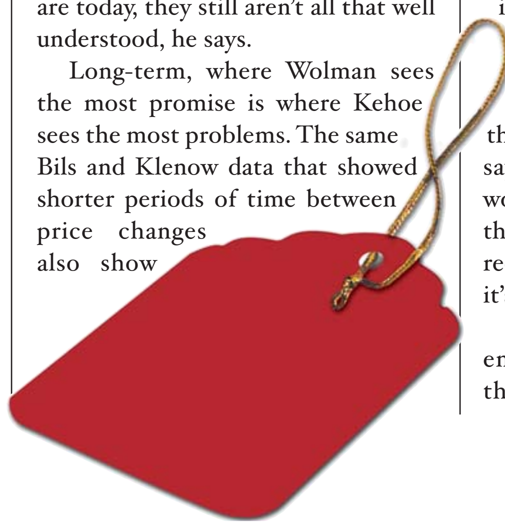
Since the 1990s, Wolman has worked with both so-called "state-dependent" and "time-dependent" sticky-price models. In state-dependent models, firms essentially are presented with an economic choice about whether it's a good time or bad time to switch prices, and the sole criterion for making that decision is whether it will cost more to the firm to keep prices stable than to incur a menu-type cost to change them. By contrast, in "time-dependent" models, prices are automatically changed or not after a certain period.

> "We as economists don't know exactly how what the Fed does matters for the real economy."

Wolman argues that state-dependent models are superior to time-dependent versions because they more accurately mirror the real economy. They don't impose so much structure on firms as they allow them to decide when to adjust prices based on environmental conditions — whether it's cheaper to leave prices unchanged or not. But the trade-off is that state-dependent models are more technically involved, so on occasion Wolman prefers to work with time-dependent models. Among other things, Wolman has used time-dependent sticky-price models to argue that the Fed isn't powerless when nominal interest rates reach zero.

Wolman continues his research with sticky-price models. He is trying to both understand them better — especially their implications for monetary policy — and to advance them. As widely used as sticky-price models are today, they still aren't all that well understood, he says.

Long-term, where Wolman sees the most promise is where Kehoe sees the most problems. The same Bils and Klenow data that showed shorter periods of time between price changes also show enormous variance, or "heterogeneity." Wolman thinks sticky-price models can begin to incorporate the vast differences in how firms change prices — something that nobody has really accomplished yet. "It's not straightforward to write down and solve models with those features," he says. "What we need to understand is how that heterogeneity in the frequency of price adjustment matters." The upshot, Wolman hopes, will be a model that produces results more consistent with actual economic data.



Building such a model is important because it will help us get at the central issue of this debate: the extent to which monetary policy and the Fed matter in the real world.

The irony that a monetary skeptic is serving as monetary adviser at a Federal Reserve bank is not lost on Kehoe. But he doesn't necessarily see it as a conflict. To be sure, there is evidence that monetary policy run amok can severely damage an economy — witness runaway U.S. inflation in the late 1970s, a phenomenon many economists including Kehoe attribute to the Fed's poor handling of the money supply.

At the same time, Kehoe thinks the reverence with which the U.S. Federal Reserve System is held by some may be overstated. The Fed cannot hope to smooth every blip in the economy with monetary policy, he says, because it doesn't really wield that kind of power. The perceived failure of sticky-price models is case in point for Kehoe. "I could well imagine that monetary policy is important in a variety of ways, but I don't think that the profession in general and sticky-price enthusiasts in particular have a handle on the mechanism by which it is," he says. "I'm perfectly comfortable working at the Fed without thinking that the Fed can save the day for every recession and at the same time think it's important to keep prices stable."

Perhaps surprisingly, sticky-price enthusiast Galí somewhat shares that sentiment: "The presence of high and persistent levels of unemployment in many industrial economies can hardly be attributed to nominal rigidities. At most, monetary policy can provide a temporary patch."

In other words: Monetary policy is not the cure-all salve for the economy that the popular media have lately told you about. Both Kehoe and Galí agree that it's good for some things, but not all things — though Galí is more enthusiastic about it than Kehoe.

Their differences are nuanced but important. With regard to monetary policy, Kehoe is content to shoot for general price stability and then let the real economy work out other kinks on its own. Gali, by contrast, draws a strong connection between the existence of sticky prices and the effectiveness of monetary policy. Because of this, he has greater confidence in monetary policy's ability to guide the behavior of the real economy.

Wolman isn't at all ready to give up on sticky-price modeling, but he think a lot more work remains: "I believe what the Fed does matters. But we as economists don't know exactly how what the Fed does matters for the real economy."

He pauses. "It's slow going for people to reach a definitive conclusion about the effects of Fed behavior on the real economy. Hopefully, by gathering more data and building more models, we can become better informed about this question." **RF**

Readings

Bernanke, Ben S. "Monetary Policy Modeling: Where Are We and Where Should We Be Going?" Remarks at the Federal Reserve Board Models and Monetary Policy Conference, Washington, D.C., March 27, 2004.

Bils, Mark, and Peter J. Klenow. "Some Evidence on the Importance of Sticky Prices." *Journal of Political Economy*, October 2004, vol. 112, no. 5, pp. 947-985.

Chari, V. V., Patrick J. Kehoe, and Ellen R. McGrattan. "Sticky Price Models of the Business Cycle: Can the Multiplier Solve the Persistence Problem?" *Econometrica*, September 2000, vol. 68, no. 5, pp. 1151-1179.

Galí, Jordi. "New Perspectives on Monetary Policy, Inflation, and the Business Cycle." National Bureau of Economic Research Working Paper no. 8767, February 2002.

Dotsey, Michael, Robert G. King, and Alexander L. Wolman. "State Dependent Pricing and the General Equilibrium Dynamics of Money and Output." *Quarterly Journal of Economics*, May 1999, vol. 114, no. 2, pp. 655-690.

Kydland, Finn E., and Edward C. Prescott. "Rules Rather Discretion: The Inconsistency of Optimal Plans." *Journal of Political Economy*, June 1977, vol. 85, no. 3, pp. 473-492.

Wolman, Alexander L. "Real Implications of the Zero Bound on Nominal Interest Rates." Federal Reserve Bank of Richmond Working Paper no. 03-15, December 2003.

Visit **www.richmondfed.org** for links to relevant sites.

The falling dollar has made American goods more attractive to consumers abroad, but not everyone is happy about the currency's slide

BY BETTY JOYCE NASH AND JENNIFER WANG

China is famous for its exports, but this nation of 1.3 billion people is also one of the world's biggest importers. Thanks to the falling dollar, it may become even more so. In 2004, China bought machinery from firms in Maryland and Virginia. China also bought wood from North Carolina — lots of it. China bought organic chemicals from South Carolina and plastic from West Virginia. And China isn't the only country buying U.S. goods — the dollar is making U.S. prices look good these days.

After cresting in 2002, the dollar has retreated to exchange rates not seen since the mid-1990s. Overall, the weakened dollar helped lift Fifth District exports during 2004 by 13.5 percent, with $53.2 billion worth of goods being sent overseas. Manufacturers of chemicals, machinery, plastic, and vehicles have seen the biggest gains. Wood exports also grew, while apparel and woven fabric exports dropped off.

But does the falling dollar portend trouble if the United States must keep borrowing from foreign investors to finance its consumer and government spending? Or will the depreciation enhance U.S. competitiveness and help keep economic growth strong?

Going Abroad
State Merchandise Export Totals

State	Exports 2003	Exports 2004	% change
District of Columbia	809,220	1,164,327	44
Maryland	4,940,631	5,746,142	16
North Carolina	16,198,733	18,114,767	12
South Carolina	11,772,894	13,375,890	14
Virginia	10,852,981	11,630,744	7
West Virginia	2,379,808	3,261,683	37
Fifth District	46,954,267	53,293,553	14
United States	723,743,177	817,935,849	13

NOTE: Figures are in thousands of dollars
SOURCE: Department of Commerce

Falling Dollar, Rising Exports

Economists are debating the long-term implications, but the falling dollar's impact in 2004 was favorable for many U.S. firms. North Carolina exported $18 billion worth of goods in 2004, 11.3 percent more than 2003. "The weaker dollar's having a huge impact on our business worldwide," says Peter Cunningham, director of the International Trade Division at the North Carolina Department of Commerce.

The Tar Heel state exported 50 percent more pharmaceutical products in 2004 than it did in 2003, but it also exported almost 22 percent more cotton and yarn. And $5.4 million of the cotton and yarn exported went to China, an increase of 36 percent to that country. Knit apparel, however, dropped by nearly 19 percent, a trend that many think will continue. Likewise, South Carolina sent 63 percent more cotton and yarn abroad last year, with China being its second best customer.

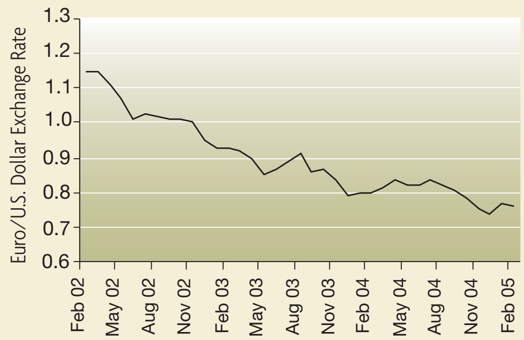
Strong cotton and yarn sales fuel overseas apparel shops, says Donald Brasher, president of Global Trade Information Services, based in Columbia, S.C. North Carolina is the No. 1 exporter of cotton yarn, and with the removal of textile quotas, China will produce even more apparel for export. That may be bad news for what's left of the Fifth District apparel sector. But China is going to need cotton — lots of it. "We might be sending more yarn to China or we may be just sending more raw cotton," Brasher notes.

Will China buy another traditional Fifth District manufactured product — furniture? Perhaps. In 2004, North Carolina exported about 23 percent more furniture and bedding to China than the previous year.

North Carolina exported about $253 million in furniture and bedding in 2004, about 3 percent more than 2003, according to Global Trade Information Services. Most furniture companies have not embraced the

ILLUSTRATION: GETTYIMAGES AND LARRY CAIN

The Dollar's Slide Against the Euro



SOURCE: Bloomberg

export strategy but are being urged to expand to international markets because of the falling dollar. North Carolina's biggest furniture customers in 2004 were Canada and Australia.

"I use this example: A $500 sofa two years ago would have cost 560 euros, today it's about 400 euros," says Jeremy Ruff of the North Carolina Department of Commerce's Furniture Trade Office. "Just the difference in the exchange rate is pretty dramatic."

For exporters, the effect of the declining dollar is easy to understand: A depreciated dollar makes U.S. goods more affordable. And more foreign tourists travel in the United States because their money goes further. One dollar was worth .76 euros in March, so a $5 lunch cost 3.81 euros for German tourists in Washington, D.C.

Linda Yelton, manager of international research at the Travel Industry Association of America, notes that travel to the United States from Europe, the United Kingdom, and Asia increased last year. In total, overseas travel to the United States rose by 14 percent over 2003.

Fifth District companies are benefiting from increased international tourism indirectly as well as directly. In February, Goodrich Corp. of Charlotte, N.C., announced a contract worth $6 billion over 20 years with airplane maker Airbus of France.

How Low Can You Go?

The dollar may be falling but it hasn't tumbled enough to suit Cliff Waldman, an international economist for the trade group Manufacturers Alliance. He thinks the dollar needs to keep dropping to close the ever-widening trade deficit, which reached almost 6 percent of gross domestic product in late 2004. Waldman notes that the growth in demand for U.S. exports has moderated as economic activity in certain key countries has weakened, namely Germany and Japan.

"In terms of what we really need to see the dollar do, it has not gone back to the levels where we needed it to be competitive," Waldman says. He points out that in the early 1990s, the dollar appreciated more than 70 percent from 1992 to February of 2002, and almost 40 percent of that occurred from 1995 to 2002. Since then, the dollar has declined roughly 40 percent against the euro, but considerably less against a larger basket of currencies.

Likewise, Michael Walden, an economist at North Carolina State University, sees no threat in the declining dollar. He believes the dollar was overvalued prior to its recent decline.

"We're at a level commensurate with where we were in the mid-1990s. It's going to have a positive impact on our economy," he says. "It's an automatic stabilizer, if one is worried about the trade deficit. It stimulates exports and makes imports more expensive, eventually."

America's Savings Rate

The capital flowing into the nation from abroad has financed consumer and government spending, reflecting the lack of domestic savings, one piece of the dollar puzzle. If foreign investment falls, the United States could be stuck paying higher interest rates.

Federal Reserve Board Governor Edward Gramlich recently focused on savings in a speech, concluding: "In the short run, output growth is healthy and inflation rates are stable. Investment shares are reasonable, but that is largely because the United States is borrowing such a huge amount from world capital markets. The key question is whether this borrowing is sustainable. However sustainable it is, the United States would seem well-advised to minimize risks by raising its own national saving to finance its own investment. That would stabilize investment in the short run and increase profitability in the long run."

Walden notes that personal savings calculations don't capture capital appreciation in such things as homes or 401(k) plans. Also, one "could argue that education and research are investments," and compared to other countries, the United States spends a high share of its national product on those things.

While the falling dollar has benefited American exporters, the effect on some domestic manufacturers and consumers has been quite different.

"Relative prices of all internationally traded goods increase with dollar depreciation. U.S. producers of these goods gain, but all U.S. buyers are harmed," says Thomas Grennes, a colleague of Walden's at N.C. State. "For example, U.S. producers of steel gain from more expensive imported steel, but U.S. makers of automobiles and all users of steel are harmed because their costs increase." **RF**

Readings

Bivens, Josh. "The Benefits of the Dollar's Decline." Economic Policy Institute Briefing Paper no. 140, July 24, 2003.

Gramlich, Edward. "The Importance of Raising National Savings." Remarks Delivered at Dickinson College, March 2, 2005.

Obstfeld, Maurice, and Kenneth Rogoff. "The Unsustainable U.S. Current Account Position Revisited." National Bureau of Economic Research Working Paper no. 10869, October 2004.

"The Disappearing Dollar." *The Economist*, December 4, 2004, p. 9

Visit **www.richmondfed.org** for links to relevant sites.

THE IDENTITY BUSINESS

Biometrics Cluster Sharpens West Virginia's Economic Image

BY BETTY JOYCE NASH

Tucked among the ridges and valleys of West Virginia, on land once stripped for mineral wealth, sits the biggest stash of fingerprint data in the world. The Federal Bureau of Investigation's Criminal Justice Information Services Division (CJIS) is 10 years old, employs more than 2,300 people, and forms the root of a new economic identity for West Virginia — biometrics.

The CJIS center has spawned a biometrics cluster. From certification labs to technology parks to technology transfer groups, the industry is taking hold, according to Tom Witt, director of the West Virginia University Bureau of Business and Economics. "The indication we have nationally is that this is a center for biometrics. We're on the map, the radar screen."

Biometrics uses physical traits to determine and verify identity, and as a result, speed transaction time. A quick fingerprint scan identifies you at a supermarket counter so there's no fumbling for credit cards. Or perhaps you enter the workplace by staring into a machine that scans the unique pattern of your retina.

The payoff could be big as the biometrics business grows along with national anxiety over security and identity fraud. An industry association, the International Biometric Group (IBG), predicts revenues will quadruple in the next four years, from $1.2 billion in 2004 to $4.6 billion in 2008.

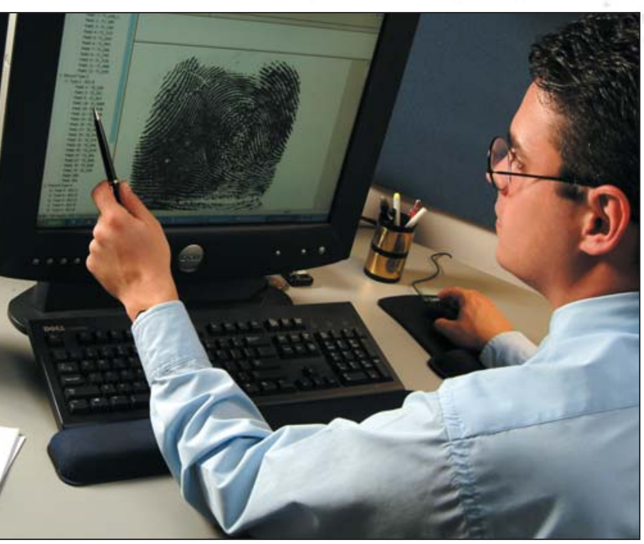
Corporations such as defense giant Lockheed Martin maintain a mountain presence with about 250 employees in the region anchored by the FBI. West Virginia has built on this biometrics base with the goal of transforming the manufacturing and mining mentality into a technology focus. To capitalize on the CJIS center, the state is pumping money into university research funds and the state's venture capital fund. West Virginia is also cultivating its most valued resource — people.

Alan Viars is the kind of knowledge worker West Virginia covets. He is a 1999 graduate of West Virginia University, with master's degrees in computer science and business administration. Viars works in Clarksburg as a contractor at the U.S. Department of Defense's Biometrics Fusion Center, the hub of defense biometrics research, testing, and evaluation. The center, located on Main Street among vacant storefronts and next door to the Ordinary Restaurant and Pub, is only three and a half hours from Viars' hometown of Comfort, near the Coal River in Boone County. But technologically, it's light years away.

"I was offered a job and it happened to be involved with biometrics, so I picked it up after college," he explains of his career path. Viars, who hails from a family of entrepreneurs, works on developing data-sharing software, among other tasks. "I do a lot of pilots to make sure things go well." He sees the industry, in particular the fusion center, as a permanent outcropping among the West Virginia hills. "I can tell you that I don't think this place will ever go away." In fact, a new home for the fusion center is planned on the FBI grounds with a projected 2006 construction start date. Currently, the fusion center employs about 100 people, many of them contractors. There are 150 to 175 jobs slated for the new location.

Viars heads Viametrica, a fledgling spin-off from West Virginia-bred TMC Technologies, started by native Wade Linger. Lockheed Martin, with help in biometric expertise from TMC, recently won a five-year, $25 million contract to work on the Automated

TMC Technologies' Alan Viars assesses digital fingerprint collection systems at the Biometrics Fusion Center in Clarksburg, W.Va.



Biometric Identification System (ABIS) to store and search fingerprints collected worldwide by the Defense Department. The system will be able to search the database of arrestees maintained by CJIS, a big step forward.

CJIS, the fusion center, private technology firms, and a variety of state and federal institutions comprise a technology trail in the north central part of the state that runs along Interstate 79 from Clarksburg to Morgantown, home of West Virginia University (WVU). It also stretches west along Interstate 64 to include Marshall University and its forensics center.

Biometrics has become almost a household word around this region. Employees at the Biometrics Fusion Center, for example, spend 10 percent of their time fanning out into the community to offer programs. High schools encourage students to explore biometrics, and the fusion center offers internships for college students. The CJIS facility likewise reaches out. There are school children in West Virginia who have their fingers scanned to deduct lunch money from accounts, while some students at WVU gain access to dorms via hand readers.

**Reclaim Land,
Claim Opportunity**

Once the CJIS facility cranked up, West Virginia closed in on its plan for a biometrics cluster. West Virginia's economy historically depended on natural resource extraction and heavy manufacturing, both now declining. That left West Virginia's per-capita income at 78 percent of the national average in 2003, 49th among the states, and its young people bound for opportunities elsewhere.

Efforts by U.S. Sen. Robert Byrd, D-W.Va., brought the FBI division to 986 acres of reclaimed strip mines near Clarksburg. It opened in 1995 and its effects were immediate. Between 1992 and 1998, the average annual employment growth rate in the three-county area that includes Clarksburg rose by 3.16 percent compared to the statewide change of 1.7 percent.

Today, CJIS employs about 2,350 people in jobs ranging from statisticians to mechanical engineers to fingerprint readers, among others. Lisa Stout, an arts and information specialist there, has worked for the division since 1999. She grew up here and is grateful for employment options that allow her to stay close to family as she raises four children.

In 1999, CJIS launched its automated fingerprint identification system. Response time for identifying criminal submissions dropped from weeks to less than two hours. CJIS stores 48 million sets of arrestee fingerprints, the oldest and most widely used biometric. This database is critical in identifying terrorist suspects; it is linked to the U.S. Department of Defense's Automated Biometric Identification System to check fingerprints of detainees, prisoners, or suspected terrorists.

The area's institutions have attracted contractors from international firms and mountain startups, many working on federally funded projects. For example, Computer Sciences Corp. (CSC) of El Segundo, Calif., obtained a four-year, $52 million contract to support the Biometrics Fusion Center in Clarksburg. CSC will do it with the help of home-grown businesses such as TMC as well as WVU and the West Virginia High Tech Foundation.

"Obviously in light of what happened Sept. 11, many people across the world all of a sudden discovered biometrics," notes Jamie Gaucher of the West Virginia Development Office. "We were ahead of the curve. That gave us a boost and gained the state a great deal of recognition."

Michael Yura, senior vice president of the nonprofit National Biometric Security Project (NBSP), says WVU's biometrics and forensic identification majors were "simmering on the back burner until 9/11, and then moved onto the front burner on high." The NBSP's center in Morgantown develops standards, tests, and evaluates biometric technologies. WVU began its forensic identification and biometrics majors in 1997, and serves about 1,000 students today. The FBI approached Yura about creating the majors because it needed trained employees.

"When I see an increase in enrollment at the state's largest educational institution within this field, I think of that as a resource," Gaucher says, adding that if a firm wants to find people with a set of skills within the biometrics industry, West Virginia can supply them.

Tom Witt, the director of the Bureau of Business and Economic Research at WVU, says the growth in federal agencies and associated contractors working with identification technologies is dramatic.

"We came up with lists in the Clarksburg-Morgantown area — CSC, Galaxy Global, Azimuth, Lockheed — as examples of firms we know have at least a portion of their work in biometrics. Match that with efforts at the university and other initiatives within the institution and you really see that it's a critical mass." Witt says that it's tricky to calculate numbers of biometrics employees because of the overlapping skills and duties in this rather hybrid business that is part computer science, part engineering, with some bio-sciences thrown in as well.

TMC founder Wade Linger returned to his native state in 1992 to open an office for his then-employer ManTech International Corp., which worked on U.S. Navy contracts. The company wanted a piece of the action bubbling up in the wake of plans to locate the FBI's CJIS division. In 1996, Linger formed his own firm. TMC's first biometrics work related to locating missing children through facial recognition. TMC, which expects 2005 revenues of between $10 million and $12 million over 2004's $9 million, has endowed a biometrics scholarship at WVU. Biometrics has migrated into the mainstream, Linger says.

"It's gone from a fringe thing, with some real dedicated geeky types that play in it and come up with stuff that sometimes works and sometimes is hype — it's gone from that to something that's a very serious core technology that's going to be at the core of some important systems, like financial systems and criminal justice and a lot of

PHOTOGRAPHY: BIOMETRICS FUSION CENTER, CLARKSBURG, WEST VIRGINIA stuff that the military is doing, such as refugee identification," he says.

The Human Equation

Identity can be verified through *possession* (a card, key, or token), *knowledge*, (personal identification number or password) or *existence* (physical traits such as fingerprints, iris patterns, hand geometry, or facial characteristics). Biometrics ratchets the identity business up a couple of notches. It transforms physical characteristics into codes that can be matched against a database to verify identity. The idea is to make sure you are who you say you are.

Fingerprints, the oldest and most common biometric, have been used in identifying criminals for at least 100 years. In England in 1902, fingerprints helped convict someone of murder for the first time. In the 1920s, the U.S. Federal Bureau of Investigation became the repository for fingerprint data.

Multiple, complicated passwords — a pet's name or a great uncle's cousin's brother with the strange first name — are the norm these days in the workplace. But some firms are already getting more sophisticated with finger scans or iris recognition. At the Biometrics Fusion Center, for example, a very perfect female voice directs employees to "Please, move forward a little" or "Please, move back a little" so that the eye lines up with a wall-mounted iris pattern reader. Iris pattern recognition devices comprised about 9 percent of the market in 2004.

Science-fiction fans know voice recognition from *2001: A Space Odyssey*. Today, voice recognition accounts for some 6 percent of total biometrics sales, according to IBG's Biometrics Market and Industry Report 2004-2008. *Star Trek II* used scanners to allow Captain Kirk access to the Genesis Project file. All that — and more — is reality today. Bank of America uses some palm scanners to admit customers to safety deposit boxes.

Security measures mandated by Congress have beefed up the government spending and propelled biometrics forward. For example, the U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program starts abroad, where consular offices issue visas, collect biometrics (digital finger scans and photographs), and check them against a database of known criminals and suspected terrorists. When the visitor arrives at an entry check in the United States, their biometrics — digital finger scans — match the visitor to the same person who received the visa.

By the end of 2005, US-VISIT will operate at all ports. The U.S. government has set October 2005 as the deadline for requiring people from some 27 countries (Visa Waiver Program nations) to develop machine readable passports carrying biometric information on a chip.

The International Civil Aviation Organization established facial mapping as the global biometric standard for the e-passports. And electronic U.S. passports are in the testing phase. A voluntary identification tool for frequent travelers is under way at selected airports, using biometric identifiers.

Hand geometry readers already are used at some workplaces not only to verify identity but also to replace the time clock. Face recognition, estimated to be about 12 percent of sales, uses video cameras to photograph and digitally map points across a face to search a database for a match to stored images.

Though the bugs in biometrics systems are still being worked out, along with standards, the industry is coming of age, especially as the U.S. Department of Defense and Homeland Security sink billions into security. The director of the U.S. Department of Defense's Biometrics Management Office, the policy arm of the fusion center located in Clarksburg, is John Woodward. He studied biometrics for almost a decade. The way to leverage biometrics' power as a tool for defense, Woodward says, is to be able to search the biometric information against as many databases as possible.

"People say finding a terrorist is like finding a needle in a haystack. You can do exactly that. You can search to find that needle in a haystack, but to do that, searching data has to be in an interoperable format," Woodward says. And that's where the ABIS project emerges. "We're trying to take biometric data that the military collects from enemy combatants, detainees, etc., and collect that data, store it, and search it to see if we can link to the person's previous identities or past criminal attacks," he explains.

Cluster Effects

Woodward believes the fusion center's presence in West Virginia will be healthy.

"The global war on terrorism is sadly not going away anytime soon," he says. "I think you'll see growth at our West Virginia office."

North central West Virginia's geographic concentration of interconnected industries, many of which do biometrics work, is based on the FBI CJIS division and a wide array of government entities. Some of those include the National Institute for Occupational Health and Safety, the Center of Biomedical Research Excellence, the NASA Independent Verification and Validation Facility, and the NASA West Virginia Space Grant Consortium.

Economists who study clusters say that even as the global economy and technology have erased some of the

A soldier enrolls her iris with an iris reader at the Biometrics Fusion Center.

needs for companies in a similar business to work in proximity, there are compelling reasons to do so.

Michael Porter of Harvard University writes: "Even as old reasons for clustering have diminished in importance with globalization, new influences of clusters on competition have taken on growing importance in an increasingly complex, knowledge-based, and dynamic economy."

In short, clusters foster innovation. And to promote the cluster, WVU has beefed up its research funding from $60 million in 1998 to $140 million in 2004, according to Russ Lorince, director of economic development for WVU. The goal is to reach $200 million by 2010. And disclosures have ramped up as researchers move closer to patents.

The economy in the region is diverse — traditional mining and manufacturing jobs represent about 8 percent of the work force and health care is the major employer. The region's work force is educated — with 21 percent having bachelor's degrees compared to 14.8 percent statewide.

Jerry Paytas of Carnegie Mellon University has studied clusters extensively. The advantage of an institutional cluster, he notes, is stability. "The federal facilities aren't going to suffer from market shocks," he says. "You can still have shifts in political winds. In some ways, those are more predictable. With the federal government, you can negotiate a transition period."

But an institutional cluster is often focused on national needs and that can limit the benefit to the region. "In terms of making a decision, you might try to get some business for local firms, but they're beholden to different criteria. They might have to get the lowest supplier. Their mission is not to grow your economy."

Still, the industry is emerging and observers say that's why the best is yet to come.

Biometrics Buzz

Industry experts say the biometrics buzz will get louder, as worries about access mount and as businesses get on board and the technology gets cheaper and more accurate. Nearly all those interviewed for this article said the market, deployment of technology, research, funding, and acceptance had accelerated since 9/11. The International Biometric Group estimates sales of fingerprint identification systems alone at $1.5 billion by 2008, largely because of projects such as border control, immigration, national identification cards, and drivers' licenses. And as public awareness expands, analysts expect commercial interests to blossom with particular emphasis on managing data in financial services and health care.

Consumer convenience will determine acceptance. Some grocers, including Piggly Wiggly Carolina Co. with stores in South Carolina and coastal Georgia, offer customers the option of using a finger scan to access a payment choice. Shoppers first register payment options along with the fingerprint. Fifty percent of store shoppers elected to use the scan. The company's senior vice president tested the system last summer when he was on a boat trip.

"I was wearing swim trunks and a T-shirt. I went into the store empty-handed. No wallet, no money," David Schools says. "I loaded a shopping cart with drinks and chips and snacks, went to the checkout, used my finger, paid for my groceries, and was on my way."

Biometrics technology is now living up to the claims of the vendors, according to IBG consultant David Ostlund. He observes that post-9/11, people have the notion in their head they need to maintain security. One of the first large-scale biometric deployments began in the 1980s, with hand geometry devices at Ben Gurion Airport in Tel Aviv, Israel. "They still use it."

A technician at the Biometrics Fusion Center tests a facial recognition system.

Off-the-shelf technologies are available today, with fingerprint scan devices on keyboards, Panasonic iris recognizers, and a host of other technologies on the market. And that's got to be good news for the industry cluster in West Virginia.

The industry's intellectual resources are already on the ground in West Virginia because of the federal institutions, notes Jamie Gaucher, with the West Virginia Development office. "We're on the verge of a small- and medium-sized business explosion in biometrics."

And that will help keep the young people in the state. It may even draw educated people from other states, says Alan Viars. "I thought of leaving," Viars says. "But I found a job during graduate school that involved biometrics. It was pretty easy for someone with my background to fall into the biometrics industry." **RF**

Readings

Paytas, Jerry, Robert Gradeck, and Lena Andrews. "Universities and the Development of Industry Clusters." Carnegie Mellon University, Center for Economic Development. Prepared for the Economic Development Administration, U.S. Department of Commerce, 2004.

Porter, Michael. "Location, Competition, and Economic Development: Local Clusters in a Global Economy." *Economic Development Quarterly*, February 2000, vol.14, no.1, pp. 15-34.

Woodward, John, Nicholas Orlans, and Peter Higgins. *Biometrics*. New York: McGraw-Hill/Osborne, 2003.

Visit **www.richmondfed.org** for links to relevant sites and supplemental information.

COMMUNITY *the future of* BANKING

A decade ago, small banks were being gobbled up by big banks, but those days seem to be over. What are they doing now?

BY DOUG CAMPBELL

The way Roger Dick tells it, Bank of Stanly opened its doors on Jan. 26, 1984, in the tiny hamlet of Albemarle, N.C., about 40 miles east of Charlotte, on the strength of little more than the community's word that it would support a small, locally owned bank. In a town that had suddenly seen two local banks gobbled up by larger competitors, a handful of business leaders took the then-31-year-old Dick aside and asked him if he'd be interested in helping them launch a new bank.

Dick was an executive of one of the banks that was being acquired, and he quickly agreed. He drew up an offering circular himself, showed it to the North Carolina Commissioner of Banks, and got approval to start raising money. He sold $2 million in stock from the trunk of his car, insisting that no one hold more than 1 percent of the outstanding shares, a notion that many observers would consider absurd today.

Surviving for any length of time as a community bank in a rural market is no easy feat. There have been plenty of lean years, but the Bank of Stanly today endures and has even added a parent holding company to diversify its interests.

To put this accomplishment in perspective, consider that a total of 10 banks, including Stanly, were chartered in the Fifth District during 1984. Today, only the Bank of Stanly remains. The others were bought out or failed.

Says Dick, who serves as chief executive of the bank's parent company: "Occasionally, you get someone coming through saying that, for some price, you're for sale. But if I sell the bank, then I sell control in the capital in our community. I'm not going to sell."

Why Community Banks Matter

Bank of Stanly's status as sole Fifth District survivor from the Class of '84 speaks to a trend facing community banks nationwide. At the end of 1984, there were 14,351 banks with $1 billion or less in assets across the country. Entering 2004, that number was roughly halved to 7,337, according to figures kept by the Federal Deposit Insurance Corp. (Because these figures don't control for inflation, a $1 billion bank in 1984 would, in real terms, be larger than a $1 billion bank today.)

Records kept by the Fed tell a similar story in the Fifth District: Of the 310 banks that opened with new charters between 1984 and 2004, just over half — 171 of them — continue today as independent banks.

The pace of new bank charterings has followed a parallel script. In 1984, new bank openings approached 400 nationwide. Since then, there have been ups and downs, but the general trend is south.

Given those trends, it seems that community banks are losing their economic place in the U.S. financial services system, largely replaced by big banks, credit unions, and stand-alone mortgage brokers that are quickly filling the niches once occupied exclusively by homegrown banking institutions. And since community banks now hold only a small fraction of the country's total financial assets, they appear to create little systemic risk to the U.S. financial system. All this raises the following question: Do community banks matter anymore? Not surprisingly, community bankers are unequivocal about their utility, and point to the importance of having close relationships with their customers, especially when it comes to making lending decisions. At the Bank of Stanly, Dick calls it "financial services on a human scale."

Thanks to a plugged-in board of directors, community banks often are privy to personal information about clients that big banks either wouldn't know or wouldn't factor in lending decisions. "We can get more information without just relying on financial data and still make a good decision about a credit because we have a more holistic insight into clients," Dick says.

William Keeton, an economist at the Federal Reserve Bank of Kansas City, has studied the role of community banks and concludes that they remain viable and worthy of regulatory interest — though certainly not on the scale they did 20 years ago. In particular, community banks are still significant in many rural and some midsized urban settings, as well as in the crucial realm of small-business lending, Keeton says. The sort of personal lending relationships described by Bank of Stanly's Dick are crucial to understanding why community banks matter.

"It's clear to me there's going to be demand on the lending side for the kinds of services community banks provide," Keeton says. "Smaller banks have an advantage collecting information. They know the market, they have contacts in the community, and they're in a position to assess the borrower. I don't see that advantage going away."

That "advantage" is the reason why 94 percent of this nation's banks remain "community" banks, defined as having fewer than $1 billion in assets. On the flip side, community banks, as you might expect, are losing the battle for market share. Nationwide, community bank branches held 17.6 percent of all deposits in 2002, according to a Fed study, down from 29.2 percent in 1984. And in the Fifth District, the 2002 figure was even lower at 16.4 percent.

Acquisition Targets

The ability of small banks to carve out effective customer relationships has long persuaded some displaced banking executives to try their hands at opening community banks. Even amid the general decline in numbers of community banks, there have been several years when new banks sprouted in large numbers, particularly when the economy has been humming along. More than 200 banks were chartered nationwide annually between 1987 and 1989; those heights were reached again in the three years between 1999 and 2000.

Arnold Danielson, chairman of Rockville, Md.'s, Danielson Associates, an investment bank, says the availability of capital is key in driving new bank charters. Most new banks cater largely to small business owners, Danielson says. They thrive in markets that happen to be growing and are more at risk in locations where the economy is stagnant. Investing in new banks in good markets is almost always a wise move, Danielson says.

Except for one thing: A major reason many new banks have proven to be good investments is because they were later bought for some multiple of their book value. But the days of big banks buying small banks have largely come to an end. Big banks have used liberal interstate branching laws to fill in their turfs as much as they need.

So while nearly half the banks that opened in the Fifth District since 1984 have already been acquired or failed, the bulk of that activity happened among banks opening in the 1980s and early 1990s. Those banks that opened in the late 1990s don't seem to have the same exit strategy for investors that predecessors did.

"I made money on new banks, but I'm not enthusiastic right now. I don't see an exit strategy," Danielson says. "So you just don't have the typical buyers any longer."

Wood Britton, an investment banker with The Orr Group in Winston-Salem, N.C., remembers the go-go merger years of the early- and mid-1990s. In North Carolina, there were five formidable "midsized" banks — BB&T, Central Carolina Bank, Centura, Southern National, and United Carolina Bank — that frequently bid on the same deals for community banks. But four of those five were acquired by other banks, leaving only BB&T, which has transformed itself into a certified big bank with assets of more than $100 billion.

"Nowadays, if I'm going to come into North Carolina, buying a bank with $500 million in assets is not usually enough to make a dent in the marketplace," Britton says. So the number of interested potential buyers of banks of that size has diminished.

Community banks aiming to maintain their attractiveness to buyers ought to locate only in strong growth markets, Britton says. This is one reason why so many more banks are being bought in Florida in recent years than in, say, the Carolinas.

Back to Basics: With a Few Twists

The last bank to open in the Fifth District during 2004 was TriStone Community Bank of Winston-Salem. While already a crowded banking environment, Winston-Salem is a relatively strong market for growth in North Carolina. And with the 1996-opened Southern Community Bank and Trust reaching almost $1 billion in assets, TriStone organizers saw an opportunity: They would build a true "community" bank, now that Southern Community was growing beyond the benchmark $1 billion in assets.

Led by CEO Simpson O. Brown, organizers raised $16.5 million and opened TriStone on Nov. 30, one of 16 banks chartered in the Fifth District in 2004 — the highest annual total since 2000's 18. At TriStone, they are not reinventing the community banking wheel. "We are a small business bank," Brown says. "A lot of folks talk about customer service; we really put that into practice." Unusual amenities include a fireplace and wide-screen TV where clients are invited to linger.

On the more pressing matter of competing with larger rivals, TriStone has allied itself with a group of community banks through which it sells loans, keeping its own risk level down while making it seem to clients they can handle large deals.

"I think it's a very viable strategy," Brown says. "We'll do what's in the best interest of our shareholders, but we didn't build this model to sell."

Not far down the road at Bank of Stanly, CEO Dick wants the same thing for his bank. But even after a 20-year record of durability unmatched in the Fifth District, he is more cautious. Like TriStone, Bank of Stanly has diversified its offerings and set up a parent company to branch out geographically.

Yet sitting in the heart of rural North Carolina, where job losses in the textile industry have been significant, does not make Dick optimistic: "I think the hardest period to deal with is the one we're in now. To achieve that critical mass to be competitive is very complicated. I wish it didn't have to be." Even community banking is no longer simple. **RF**

READINGS

Critchfield, Tim, et al. "Community Banks: Their Recent Past, Current Performance, and Future Prospects." *FDIC Banking Review*, 2004, vol. 16, nos. 3-4, pp. 1-56.

Keeton, William. "The Role of Community Banks in the U.S. Economy." Federal Reserve Bank of Kansas City *Economic Review*, Second Quarter 2003, vol. 88, no. 2, pp. 15-43.

Visit **www.richmondfed.org** for links to relevant sites.

ECONOMIC HISTORY

Washstands, Sideboards, and Parlor Suites

BY ROBERT LACY

Making Furniture and Progress in North Carolina's Piedmont

Furniture making has a long tradition in the Piedmont region of North Carolina. Many years before High Point, Drexel, and Thomasville became famous for furniture manufacturing, craftsmen in the area provided the overwhelmingly rural populace with handmade chairs, tables, and beds.

In the 1800s, exceptional cabinetmakers in the Moravian settlement of Salem (now Winston-Salem) and in Quaker communities in Randolph and Rowan counties worked wonders with wood, creating furniture pieces that are collectors' items today. And Thomas Day, a free African-American in antebellum Milton, N.C., had both the artistic talent to design fine furniture and the business acumen to run the largest furniture-making operation in North Carolina in the 1850s.

With such precedents, it's not surprising that a modern, mechanized furniture manufacturing industry would take root in North Carolina at the turn of the 20th century. There were huge timber operations in the state. Plenty of oak, poplar, maple, and other trees suitable for furniture making remained to be harvested. There were also plenty of men available to work in furniture factories, an attractive alternative to the drudgery of farm work during the era.

Early Hickory factory workers take a break to pose in 1901.

PHOTOGRAPHY: CATAWBA VALLEY FURNITURE MUSEUM, HICKORY FURNITURE MART

What was remarkable was just how quickly the furniture-manufacturing industry in Piedmont North Carolina would grow in the early decades of the 20th century. By 1929, North Carolina was among the top-five states in the nation in the production of wooden household furniture. Small towns in the region were becoming as famous for furniture as the more industrialized cities like Chicago, Cincinnati, and Grand Rapids, Mich. A Southern furniture industry had emerged in the Piedmont region, with High Point as its center.

During its formative years, from 1880 to 1930, furniture manufacturing played a key role in the industrialization of North Carolina. Along with the textiles and tobacco industries, the furniture industry would demonstrate that Southern manufacturers could attract capital and develop the management and labor skills necessary to grow and prosper.

While agriculture would continue to dominate North Carolina's economy for years to come, the state would benefit greatly from the economic diversification that manufacturing offered. As the most industrialized state in the South, North Carolina was considered a model for other Southern states to follow in promoting industry and economic development.

The Early Years

Manufacturing meant progress in North Carolina in the late 19th century. In the decades following Reconstruction, civic and business leaders, in almost frenzied tones, touted the advantages of manufacturing in creating wealth and prosperity.

Lacking the resources and capital to emulate many of the successful manufacturing operations in Northern states, North Carolina manufacturers looked to what natural resources they had and added value where they could.

What they had in abundance — and what they knew — was cotton, tobacco, and timber. They merged agriculture with light industry, and by 1880 the industrial revolution was under way in earnest in North Carolina. Over time, three industries — textiles, tobacco processing, and furniture manufacturing — would become symbols of progress not only in North Carolina, but also in the entire South.

Large-scale, mechanized furniture operations first emerged in the Piedmont region in the 1880s. Among the earliest was the White Furniture Company in Mebane, organized by brothers David and William White in 1881. With a little cash and a loan from a family friend, they began producing oak dining room tables. Known for years as the South's oldest maker of fine furniture, White Furniture would remain in Mebane for more than 100 years.

Another early enterprise was the High Point Furniture Manufacturing Company in High Point. It was founded in 1889 by Ernest A. Snow, a lumber salesman, and local merchants John Tate and Thomas Wrenn. The High Point factory was small, amounting to no more than a two-story shed according to one account, and it produced mainly wooden beds and sideboards. But it grew quickly: Total sales were $75,000 the first year and twice that the second.

In nearby Thomasville, manufacturers were gaining a reputation for making good chairs. D. S. Westmoreland operated a factory there in the 1880s, and H. E. Clement founded the Thomasville Manufacturing Company in 1895. A Thomasville factory could turn out as many as 1,500 chairs a day in the early 1900s. A huge wooden chair, some 13 feet tall, would be erected on the main street in Thomasville in 1922, a monument to its heritage as the "chair town of the South."

In the early years, the principal product was simple oak furniture, sold primarily in Southern markets at inexpensive prices. Bernhardt's furniture company in Lenoir sold thousands of oak chests and tables that cost less than $4 each around the turn of the century. A solid oak bedroom suite, consisting of a bed, dresser, and washstand, was available from White Furniture for $9. A manufacturer in what is now Drexel sold a three-piece suite, with an oak bureau, washstand, and bed, for $14.50 wholesale.

It was sturdy, inexpensive furniture intended for a largely rural population with modest means. "People [in the state] were dirt-poor," notes Patricia Marshall, curator of furnishings and decorative arts at the North Carolina Museum of History in Raleigh. "They were just getting back on their feet in the years after Reconstruction." Even if North Carolina manufacturers could have produced higher-quality furniture in the early years of the industry, most of the people in the state could not have afforded it.

According to the U.S. Census Bureau, there were 44 furniture-manufacturing establishments in North Carolina in 1900, producing $1.5 million worth of furniture. Although still

Off the Farm

"Nobody could work a man harder or longer in a mill than he worked on the farm or his children either. Nobody would pay him less than he made there."

— Jonathan Daniels
Tar Heels: A Portrait of North Carolina, 1947

As industrialization began to take hold in Piedmont North Carolina in the closing decades of the 19th century, an increasing number of men, women and children went to work in textile mills, tobacco plants, or furniture factories. Many of them were just off the farm, attracted by a steady paycheck and the hope of a better life. For most, life at a North Carolina factory or mill would turn out to be a vast improvement over life on the farm.

It was, without a doubt, hard work in the new industries in the region. Workers there put in long hours, often 70 or more hours per week. And they didn't make much — as little as 40 to 50 cents per day in the 1890s for textile workers and sometimes paid in scrip, redeemable only at company stores.

But farming during the era seldom paid at all. Even in good years, North Carolina farmers barely made ends meet. In bad years, when crops failed or crop prices were low, they lost money. For most farmers, the last few decades of the 19th century were an interminable stretch of bad years.

Crop prices generally declined in the late 19th century as the farm sector languished in a protracted depression. Cotton, the indispensable raw material for the cotton textile industry, fell sharply in price — from 15 cents per pound in the early 1870s to 6 cents per pound in the latter half of the 1890s. Most farmers lost money growing cotton, even as mill owners profited and the cotton textile industry flourished. Usually in debt, with farm land mortgaged, many North Carolina farmers lost their farms as well.

Of course, many of North Carolina's farmers never had their own land to lose in the first place. In 1880, more than a third of the state's farms were operated by tenants, who worked someone else's land and paid the landowner when the crops came in. Some paid in cash while others were sharecroppers who agreed to share the harvest with landowners. The vast majority of tenant farmers lived impoverished lives; many suffered physical maladies from improper diets and poor health care.

With miserable conditions in the agricultural sector, news of a mill or factory opening in the region was cause for celebration. Tenant farmers in particular flocked to the expanding industries in the state. Men, women, and even children found employment there. (About a quarter of textile mill workers in 1900 were children.) While the work was drudgery and the factory floor often hot and noisy, they stayed with it.

Once they left, few mill or factory workers ever returned to full-time farming.

— Robert Lacy

small compared to the textiles, tobacco, and lumber industries in the state, the furniture industry was firmly established at the turn of the century and growing fast.

Growth: 1900 to 1929

North Carolina's furniture industry would realize remarkable success in the early decades of the 20th century. The value of furniture manufactured in the state rose from $1.5 million in 1900 to $56.7 million in 1929, the highest in the South and sixth among states nationwide. North Carolina manufacturers excelled in the production of household furniture; they ranked first in wooden dining room and bedroom furniture and second in wooden kitchen furniture by that time.

What accounted for their success? Proximity to suitable timber certainly helped. Oak, yellow poplar, maple, chestnut, and other hardwoods well-suited for furniture grew in abundance in North Carolina and nearby states. Oak, still the most widely used wood for furniture in the South in the early 1900s, came primarily from North Carolina and eastern Tennessee.

Proximity to timber helped hold raw material prices down; in 1929, the average cost of lumber used for making furniture was $40.78 per 1,000 feet in North Carolina. In contrast, Illinois manufacturers paid $72.68 while those in New York paid $71.77. With materials costs accounting for about 45 percent of the total costs of manufacturing medium-quality furniture, Piedmont furniture manufacturers had secured a substantial cost advantage over Northern and Midwestern manufacturers.

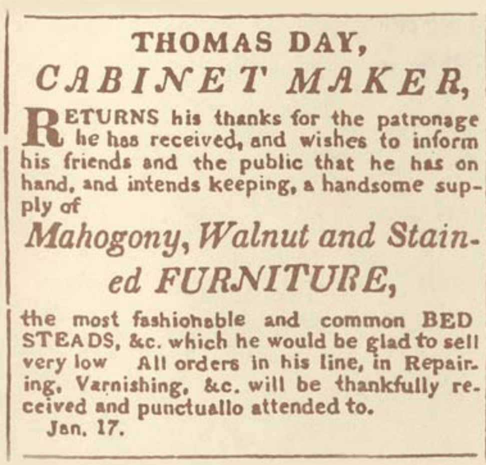
North Carolina furniture manufacturers also paid lower wages than manufacturers in the North. The aver-

Master Cabinetmakers in the 19th Century: Fine Furniture from the Carolina Backcountry

Johann Belo. Mordica Collins. John Swisegood. Thomas Day. Unfamiliar names to most of us, but they were all master cabinetmakers in the 1800s. In small shops in the backcountry of North Carolina, they produced the finest furniture around.

Many of the most accomplished furniture makers in the region hailed from the Moravian community of Salem. The Moravians were a religious group that settled in North Carolina in the 1750s. Largely of German descent, they built furniture notable for solidity, simplicity of design, and careful construction. The Moravians believed that woodworking, pottery making, and metal crafting, like other daily routines, were ways of serving God; and many members of the Salem community became expert cabinetmakers, potters, and metalworkers in the 19th century.

"The Moravians were fine craftsmen in the backwoods," notes Patricia Marshall of the North Carolina Museum of History. "They had a unique style. There was also some sophistication to their work, with their use of wood inlays."


THOMAS DAY,

CABINET MAKER,

RETURNS his thanks for the patronage he has received, and wishes to inform his friends and the public that he has on hand, and intends keeping, a handsome supply of

Mahogony, Walnut and Stained FURNITURE,

the most fashionable and common BED STEADS, &c. which he would be glad to sell very low All orders in his line, in Repairing, Varnishing, &c. will be thankfully received and punctuallo attended to.

Jan. 17.

Advertisement from the March 1, 1827 issue of The Milton Gazette.

Cabinetmakers were a vital part of the Moravian community because they could build household necessities that would otherwise have to be freighted in over land to the somewhat isolated town of Salem. In addition to such items as chairs, tables, beds, chests of drawers, and desks, they constructed doors and window sashes for houses. Johann Belo, who operated a shop in Salem from 1806 to 1827, was but one of many Moravian cabinetmakers of the period.

About 20 miles to the south of Salem, in the Abbotts Creek area of what is currently Davidson County, N.C., another group of master craftsmen plied their trade. The most notable of these was John Swisegood. He learned cabinetmaking and joinery while apprenticed to master craftsman Mordica Collins. By 1820, he was operating his own shop as a master cabinetmaker. He made desks, chests, cupboards, and chests of drawers, some of which were signed and thus can be easily attributed. A Swisegood piece can bring thousands of dollars at auction today.

In the small town of Milton, near the Virginia border, lived Thomas Day, one of the most impressive of North Carolina's 19th century cabinetmakers. Born in Dinwiddie County, Va., in 1801, he was a free African-American who moved to Milton in the 1820s. Along with bureaus, tables, chairs, and beds, he built household fixtures such as fireplace mantles and stair railings.

Thomas Day had a reputation for innovative design, careful construction, and use of mahogany veneers. "He came up with designs of his own as well as using pattern books and styles of the period," says Marshall. "Other furniture makers gravitated to what he was doing and copied him."

Families in many of the plantation homes in the region, as well as in the governor's mansion in Raleigh, had furniture or millwork made by Day's shop. By 1850, Day's furniture-making business was the largest in North Carolina. His shop employed free black, white, and slave laborers. He was one of only a handful of North Carolina furniture makers using steam-powered tools in 1850 and thus one of the earliest to begin the transition to a fully industrial production process.

Laurel Sneed, executive director of the Thomas Day Education Project, notes that Day is considered a major figure of the antebellum era. "He was quite active as an entrepreneur and left behind amazing furniture and interior woodwork. He certainly challenges stereotypes about African-Americans of the period." — Robert Lacy

PHOTOGRAPHY: THE THOMAS DAY HOUSE

age wage in the furniture-manufacturing industry in North Carolina in 1929 was 33 cents per hour. In major furniture-producing states in the North, wages were generally much higher: 57 cents per hour in New York, 56 cents per hour in Michigan, and 47 cents per hour in Pennsylvania.

In addition to receiving lower wages than their counterparts in Northern states, North Carolina furniture workers tended to work longer hours. Piedmont furniture workers in the 1920s typically worked 50 to 55 hours per week. A 40-hour workweek wouldn't become standard until the 1930s.

But compared to farming, the alternative for most North Carolina factory workers, a furniture factory job was a step up. Most North Carolina farmers lived hand to mouth on small farms of fewer than 100 acres. Many farmers during the period didn't even own the land they farmed; about 45 percent of North Carolina farms in 1925 were operated by tenants. Just about any job at a furniture factory was better than a hard scrabbled life on the farm.

The existence of a grid of railroad tracks that provided reliable freight transportation services in the Piedmont region also spurred the industry's growth. The rail system enabled timber to be hauled to factories and bulky furniture to be transported throughout the region at reasonable costs. There were direct routes to markets in the Northeast and South, as well as to a major seaport at Norfolk, Va., where furniture could be shipped abroad. High Point, Hickory, Thomasville, Lenoir, and Morganton were among the North Carolina towns with furniture factories built along the railroad tracks.

Lower costs for labor and raw materials and easy access to markets allowed North Carolina manufacturers to steadily gain market share from competitors in the North and Midwest. In addition, they benefited from an expanding market for furniture. Rising incomes, a growing middle class, and a home-building boom after World War I helped fuel prosperity in the North Carolina furniture industry in the 1920s. Output from North Carolina factories nearly doubled during the decade. New factories were built and improved production methods implemented, in some cases emulating mass-production techniques used in the automobile industry.

By 1929, more than 16,000 people were at work making furniture in North Carolina, up from fewer than 2,000 in 1900. Value added in the furniture industry in 1929 amounted to $27 million, well below that of the tobacco or textiles industries, but high enough to place furniture among the leading manufacturing industries in the state.

North Carolina Factory-Produced Furniture
(1890 and 1900)

	1890	1900
Establishments	6	44
Wage Earners	152	1,759
Value of Product	$159,000	$1,547,305
Capital	$126,350	$1,023,374

SOURCE: U.S. Census Bureau, 1900

Wood Used in Furniture Manufacturing
(1909 to 1913)

	Percentage
Oak	64.0
Gum (red, tupelo, and black)	12.2
Yellow poplar	10.6
Southern yellow pine	4.4
Chestnut	2.6
Maple	1.4
All other woods	4.8

SOURCE: C.F. Korstian. *The Economic Development of the Furniture Industry of the South and Its Future Dependence Upon Forestry.* Raleigh: North Carolina Department of Conservation and Development, 1926

Economic Progress

In 1930, only a generation removed from the nascent industry of the turn of the century, North Carolina furniture manufacturers had every right to be proud of what had been accomplished. Their factories produced more furniture than those in any other state in the South, and they had proven to be worthy rivals to furniture makers in the North and Midwest. And they would continue to grow and prosper. While the Great Depression caused furniture demand to drop precipitously in the early 1930s — retail furniture sales in the nation declined by 63 percent between 1929 and 1933 — population growth and rising incomes in the 1940s and afterward fostered long-term growth in the industry.

Fifty-five hour workweeks and 33 cents per hour earnings may not sound like much progress today. But North Carolina's furniture industry helped lead the way in the industrial development of the South in the early decades of the 20th century. The Rip Van Winkle state, as it was sometimes called in the 1800s for its backwardness and seeming indifference to social and educational reforms, was at the forefront of the economic progress that would eventually bring higher standards of living to the South. **RF**

Readings

Bivins, John, Jr., and Paula Welshimer. *Moravian Decorative Arts in North Carolina: An Introduction to the Old Salem Collection*. Winston-Salem, N.C.: Old Salem, Incorporated, 1981.

Hobbs, S. Huntington, Jr. *North Carolina: An Economic and Social Profile*. Chapel Hill, N.C.: University of North Carolina Press, 1958.

Lacy, Robert. "Whither North Carolina Furniture Manufacturing?" Federal Reserve Bank of Richmond Working Paper no. 04-07, September 2004.

Lefler, Hugh T., and Albert R. Newsome. *North Carolina: The History of a Southern State*. Chapel Hill, N.C.: University of North Carolina Press, 1963.

Lemert, Ben F. "Furniture Industry of the Southern Appalachian Piedmont." *Economic Geography*, April 1934, vol. 10, no. 2, pp. 183-199.

Visit **www.richmondfed.org** for links to relevant sites.

Interview

Thomas Schelling

Editor's Note: This is an abbreviated version of RF's conversation with Thomas Schelling. For the full interview, go to our Web site: www.richmondfed.org.

Thomas Schelling's early research was common fare for economists in the 1950s. The quality of the work may have been higher than most, but the topics were relatively mundane. His first two books were titled simply *National Income Behavior* and *International Economics*. But his interests extended beyond the traditional confines of the discipline, a point that was made clear with the publication of *The Strategy of Conflict* in 1960. In it, he used the tools of economics to illuminate important issues in international relations, while making significant contributions to game theory and laying the groundwork for later research in experimental economics.

Schelling has continued to publish on military strategy and arms control throughout his career, but his work has led him to a number of other seemingly disparate issues, such as racial segregation, organized crime, and environmental policy. In each case, he has been able to generate original insights from ordinary observation. As his longtime colleague Richard Zeckhauser has written, Schelling "thinks about the essence of phenomena. In scanning everyday behavior, he sees patterns and paradoxes that others overlook."

Schelling spent most of his career at Harvard University, before joining the faculty of the University of Maryland in 1990. He is a past president of the American Economic Association and recently worked with other distinguished economists on the Copenhagen Consensus, a project designed to prioritize the largest social problems facing the world. Aaron Steelman interviewed Schelling at his home in Bethesda, Md., on February 7, 2005.

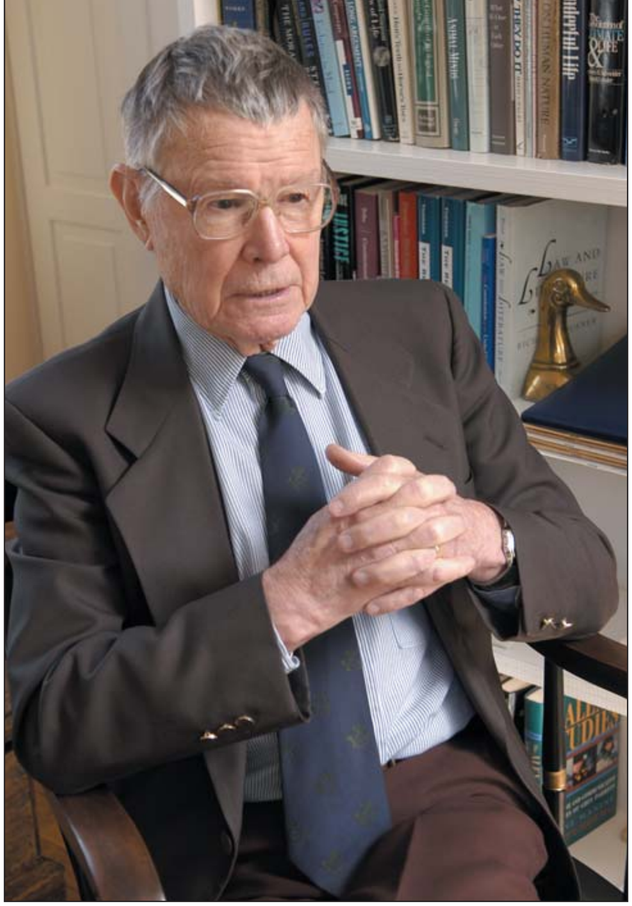
RF: Your early work focused on topics that were fairly conventional. How did your work progress into areas, such as strategic bargaining, that largely had been beyond the scope of economists?

Schelling: In 1948, I had just finished my coursework for the Ph.D. at Harvard, and a friend of mine called from Washington. He was working on the Marshall Plan and said that he had an opportunity to go to Paris but he couldn't leave until he had a replacement. So he asked me if I would like to replace him. I said sure.

Eventually, I went to Europe as part of this assignment and worked mainly on negotiations for the European Payments Union. Then, Averell Harriman, who had been head of the Paris office, went to the White House to be President Truman's foreign policy advisor. Harriman asked my boss to go with him, who in turn asked me a few months later to join him. In 1951, the foreign aid program was shifted to the Mutual Security Program, with Harriman as director, in the Executive Office of the President. I moved there, and stayed through the first nine months of the Eisenhower administration. So when I left, I had spent five years in the foreign aid bureaus, largely working on negotiations. That, I believe, was what focused my attention on the type of issues that showed up in *The Strategy of Conflict*.

RF: One of the more famous bargaining situations that you propose in *The Strategy of Conflict* involves a problem in which communication is incomplete or impossible — the game where two strangers are told to meet in New York City but have not communicated with each other about the meeting place. What does this game tell us about bargaining? And what, if any, are the policy implications?

Schelling: That little exercise, which I designed to determine if people could coordinate without any communication, became fairly famous and now I am usually identified as the originator of the idea of "focal points." My argument was that in overt negotiations something is required to get people to arrive at a common expectation of an outcome. And the ability to reach such a conclusion without communication suggested to me that there was a psychological phenomenon, even in explicit negotiations, which may work to focus bargainers eventually on that commonly expected outcome. By understanding that, I thought, we may be able to more easily facilitate policy negotiations over such matters as what would be an appropriate division of the spoils, an appropriate division of labor, and so forth.



RF: What were the responses when you originally posed this question to people?

Schelling: When I first asked that question, way back in the 1950s, I was teaching at Yale. A lot of the people to whom I sent the questionnaire were students, and a large share of them responded: under the clock at the information desk at Grand Central Station. That was because in the 1950s most of the male students in New England were at men's colleges and most of the female students were at women's colleges. So if you had a date, you needed a place to meet, and instead of meeting in, say, New Haven, you would meet in New York. And, of course, all trains went to Grand Central Station, so you would meet at the information desk. Now when I try it on students, they almost never give that response.

Some cities have more obvious focal points than others. For instance, if I asked people where would you meet in Paris, they probably would have no trouble. Most would go to the Eiffel Tower. But in other cities, it's not so clear.

The question first occurred to me while I was driving across country with two college friends. We were going from San Diego to New Hampshire and back, and camping along the way. We stopped in San Antonio and one of the other two guys got out and bought some peanut butter and crackers. While he was gone, a police officer made me move on, and because of the one-way streets, it took me about 10 minutes to get back to where I dropped him off, and he wasn't there. I kept circling around and eventually we found each other. But we realized that this could happen to us in any city, and we should come up with a plan about how to meet if we got separated.

We spent the whole afternoon thinking about it individually, but not talking about it, and that evening around the campfire we compared notes. We all wound up in the same place. The criteria we used were the following: Every city had to have this place and there could be only one of it, you had to be able to find it by asking any police officer or fireman, and you had to be able to reach it by public transportation. That narrowed the list down to the town hall or the main police station or the main post office.

Well, before we left home, we had each given our mothers a list of cities in which we would look for mail, and the way you get mail when you are traveling across country is to have the letter sent to your name, care of general delivery, and it arrives at the main post office in that city. That occurred to all three of us, and if we had to choose among the places that shared the criteria we described, the main post office seemed to be the obvious choice.

I consider myself in the rational-choice school, absolutely. But I am more interested in the exceptions than many other economists.

RF: You begin many of your papers with examples that are taken from everyday life. For instance, in "Hockey Helmets, Daylight Saving, and Other Binary Choices," you use the case of a player for the Boston Bruins who suffered a severe head injury to demonstrate why some collective action problems can be so difficult to solve — in this case, getting hockey players to voluntarily wear helmets. Is this a conscious strategy of yours to engage readers in what otherwise might seem like an abstract discussion?

Schelling: I always try to find something that I can put in the first paragraph to make the article sound interesting. It was just a coincidence that the hockey player had been hit in the head and that I had noticed it. It was a good example of a scenario in which everyone might wish to be compelled to do something that they wouldn't do on their own individually. So I think that has been part of my style. I wrote a textbook in international economics that had about a dozen policy chapters. I tried to have the first page of every chapter present an interesting puzzle or phenomenon that would get the interest of the readers.

RF: You have written that the "ordinary human being is sometimes ... not a single rational individual. Some of us for some decisions are more like a small collectivity than like the textbook consumer." Could you explain what you mean by this, perhaps through a few examples?

Schelling: I started working on that subject in the 1970s when I was asked to join a committee of the National Academy of Sciences on substance abuse and habitual behavior. I was the only economist there. Everyone else was a specialist on a certain type of addictive substance such as heroin or some other health problem like obesity. It seemed to be taken for granted that if you were addicted -- whether to heroin or alcohol or nicotine — there wasn't much you could do for yourself. I argued that this was not the case, and gave a number of examples of ways people can help themselves avoid relapse.

For instance, one person tried to show how addictive heroin was by pointing out that many former users, even those who had avoided heroin for a long time, would be likely to use the drug again if they were to hang out with the people they used to shoot up with or even if they listened to the same music that they played when they used heroin in the past. I pointed out that there was some instructive material right there. Don't associate with the same people. Don't listen to the same music. And if the place where you used to use heroin is on your way to work, find a different route. So even though those people may be inclined to use heroin again, there were clearly some ways in which they could help prevent themselves from having a relapse.

The more I thought about this issue, the more I began to conclude that a lot of people have something like two selves — one that desperately wants to drink and one that desperately wants to stay sober because drinking is ruining his life and his family. It's as if those people have two different core value systems. Usually only one is prominent at a given time, and people may try to make sure that the right value system attains permanence by taking precautions that will avoid stimulating the other value system.

RF: Some have called you a "dissenter" from mainstream economics. But it seems to me that this is true only insofar as it concerns topics of inquiry. On methodological issues, you don't seem as willing to abandon some of the core assumptions of neoclassical economics as, say, those people who call themselves "behavioral economists." Do you think that this is a fair characterization?

Schelling: This is something that I talk about a lot. I claim that we couldn't do without rational choice. But we don't expect rational choice from a child or an Alzheimer's patient or someone suffering from shock. We will better understand the uses and limits of rational choice if we better understand those exceptions. I use the example of the magnetic compass. It's usually a wonderful way to determine which direction north is. But if you are anywhere near the actual north magnetic pole, the compass could point in any direction, even south. The same is true with rational choice. It is a wonderful tool if used when appropriate, but it may not work all the time. So I consider myself in the rational-choice school, absolutely. But I am more interested in the exceptions than many other economists tend to be.

As for the behavioralist critique of neoclassical economics, I would conjecture that if you walked into a classroom where a behavioralist is teaching microeconomics, that person would teach it in a straight, standard fashion. It's something that you have to master — you can't do without it. For instance, if a student were to ask about the effect of a gasoline tax on driving behavior, the response would likely be that such a tax will tend to lower consumption of gasoline and/or increase the desirability of more fuel efficient cars. That's just straight neoclassical economics.

More generally, I think that when a new idea develops, it is important that the enthusiasts are given free rein to explore and perhaps even exaggerate that idea. Once it catches on and becomes respectable, then it's time to become more critical. Rational choice has gone through that process, and the behavioralists have emerged to challenge some of its assumptions. The behavioralists have probably overstated their case, but their ideas are relatively new and will be critiqued as well.

I think that people like Dick Thaler and Bob Frank, who are clearly two of the most innovative behavioralist economists today, so much enjoy what they do that I'm not sure if they consciously exaggerate the role of these exceptional situations. When I read Bob Frank, I get the sense that he is passionate, almost emotional about his belief that American consumers are suffering welfare losses because they are spending their money trying to avoid the discomfort of not being equal to their neighbors. I think he overdoes it, and I think that I have told him so. I don't know if his answer today would be, "Of course I overdo it. I'm trying to get attention paid to something I think is important." Or if he would say instead, "No, I don't overdo it. I really do believe that the phenomenon is that important." But even if the former is true, I would excuse that. I think that the point is important enough that if exaggeration will help them get it across, let them exaggerate.

RF: What is your opinion of modern game theory?

Schelling: That's a hard one, because I don't keep up with all the latest work in that field. But I would like to make the following broad claims: Economists who know some game theory are much better equipped to handle a lot of important questions than those who don't. But economists who are game theorists tend to be more interested in the mathematics aspect of the discipline than the social sciences aspect. Some economists of the latter group are good at using their theoretical work to examine policy issues. Still, many — and I think this is especially true of young game theorists — tend to think that what will make them famous is their mathematical sophistication, and integrating game theory with behavioral observations somehow will detract from the rigor of their work.

I'll give you an example. I had a student at Harvard named Michael Spence, who a few years ago won the Nobel Prize. Mike wrote a fascinating dissertation about market incentives to engage in excessive competitive expenditure. I was on his committee, and I argued that he needed to do two things. First, summarize the theory in 40 pages. Second, find six to 10 realistic examples to illustrate how the theory worked and why it mattered. He spent much of a year doing that. But in the end, he published the 40-page version of his dissertation in a top-tier journal, and used that paper as the first chapter of a book. Both of them got a lot of attention, and led to his appointment to the Harvard faculty.

The reason that I advised him to take this approach was quite simple: If he didn't, other people would and they would get credit for his work because they were able to apply it to real-world questions. I think that other economists, especially young game theorists, can learn from this example. Even very technical work often can be used in an applied manner — and this can benefit the work as well as the economist.

Thomas Schelling

➤ Present Position
Distinguished University Professor, Department of Economics and School of Public Affairs, University of Maryland

➤ Previous Faculty Appointments
Harvard University (1958-1990) and Yale University (1953-1958)

➤ Government Experience
The White House and Executive Office of the President (1951-1953); Economic Cooperation Administration in Europe (1948-1950); U.S. Bureau of the Budget (1945-1946)

➤ Education
A.B., University of California at Berkeley (1944); Ph.D., Harvard University (1951)

➤ Selected Publications
Author or co-author of several books, including *The Strategy of Conflict* (1960); *Micromotives and Macrobehavior* (1978); and *Choice and Consequence* (1984)

➤ Awards and Offices
Fellow, American Academy of Arts and Sciences; Member, National Academy of Sciences; Past President of the American Economic Association and Eastern Economic Association

RF: In 1950, few people would have predicted, I think, that the Cold War would end as peacefully as it did. For example, it is surely notable that the conflict ended without the use of nuclear weapons. Why do you think both sides avoided using means that would have had fairly certain, but catastrophic, consequences?

Schelling: I have written and lectured about this quite a bit. When I give a talk on the subject, I begin by stating, "The most important event of the second half of the 20th century is one that didn't happen." I think you have to go through the history to understand it fully. In the early 1950s, it was believed that the likelihood of the United States using nuclear weapons was so great that the Prime Minister of Great Britain came to Washington with the express purpose of persuading the Truman administration not to use them. And because the British had been partners in the development of nuclear weapons, their Parliament thought that the Prime Minister had a good right to share in any decision about how they would be used.

As we know, they were not used, but the Eisenhower administration repeatedly asserted that nuclear weapons were just like any other type of weapon, and that they could be used as such. The attitude in the Kennedy and Johnson administrations was quite different. They believed that nuclear weapons were fundamentally different, and their statements helped to build the consensus that their use was taboo — a consensus that may have dissuaded Nixon from using them in Vietnam.

Also, in the 1960s there was a great fear that dozens of countries would come to possess nuclear weapons. But the nonproliferation efforts were vastly more successful than most people expected. It was thought that Germany was bound to demand them, and that the Japanese couldn't afford to be without them. And then it would spiral down to other countries: the Spanish, the Italians, the Swedes, the South Africans, the Brazilians would all have nuclear weapons. The process by which these countries would acquire them, it was thought, was through nuclear electric power — the reactors would produce enough plutonium to yield weapons. For several reasons, that didn't occur.

Israel's restraint in the 1973 war was also very important, I think. Everyone knew that Golda Meir had nuclear weapons, and she had perfect military targets — two Egyptian armies north of the Suez Canal, with no civilians anywhere near. But she didn't use them. Why? Well, you could say, quite reasonably, that they didn't want to suffer worldwide opprobrium. I think, though, that there was probably another reason. She knew that if she did, the Iranians, the Syrians, and other enemies of Israel would likely acquire them and would not be reluctant to use them. In addition, it was not clear in the late 1970s that the Soviets shared the nuclear taboo. Yet, they didn't use them in their war against Afghanistan — and this was also very important.

There is a possibility that nuclear weapons will be used in the India-Pakistan dispute. But I'm not especially worried about that. The Indians and the Pakistanis have been involved in nuclear strategic discussions in the West for decades. They have had a long time to think about this, and have watched the U.S.-Soviet negotiations. I think they know that if they were to use nuclear weapons it could easily lead to something beyond their control. So I think that by now the taboo is so firmly entrenched, that it is very unlikely we will see nation-states use nuclear weapons. What we don't know is if that taboo holds for non-state actors. I think that it might, but I don't hold that opinion with much conviction.

RF: Some policymakers and analysts have argued that diplomacy is much more difficult in today's world than it was during the Cold War because there are now multiple non-state players who seem to place less value on stability than the Soviets did. How does this change the bargaining game? How can economics inform the current conflict with Islamic terrorists?

Schelling: One big difference is that you simply don't know who the non-state actors are. We have made a big deal out of Osama bin Laden. But we don't know if he is alive, and if he is alive, whether he still controls the money and organization in the way that he did a few years ago. Also, there are no recognized private channels of communication with non-state actors. If you want to get a message to bin Laden, you either hold a press conference and hope that he will hear it, or send it to him through a secret private channel.

Also, there is a popular notion that deterrence will not work when you are dealing with non-state actors. But I'm not so sure that this is the case. Consider the Taliban. I think that if the leaders of the Taliban had known what type of response the attacks of Sept. 11 would produce from the United States, they would have tried to prevent the attacks. So I think that we should consider what we can do to alienate bin Laden from some of his supporters. You also need to consider what types of weapons they are likely to use and what types of targets they are likely to choose. And we need to determine their objectives.

For instance, we still don't know what the objectives were of the attacks on the World Trade Center, because the effects were so widespread. It killed a lot of people. It produced the largest media coverage of a terrorist attack in history. It demonstrated U.S. vulnerability, while also destroying a symbol of Western capitalism. And it demonstrated the competence and some would say the bravery of the terrorists who were willing to sacrifice themselves. Each of those could have been the principal objective, or there could have been some combination of objectives. But we don't know for sure.

When we think about weapons, many people seem to think that terrorists will use whatever weapon they can get their hands on. But consider the use of, say, smallpox from a cost-benefit analysis. They could release smallpox in New York, Chicago, and San Francisco. But smallpox is a very difficult disease to contain in a world of global travel, and the United States is the country best equipped to deal with an outbreak. Releasing smallpox in the United States, then, could result in many more deaths in poor countries with relatively bad health systems like Indonesia and Pakistan than in the United States. I'm not sure that would be a result the terrorists would welcome. By unleashing such widespread death in the developing world — especially in places where they enjoy support today — they could substantially reduce their approval and assistance from people who are now their allies. In contrast, anthrax might be a more attractive option because it is not contagious, and its effects could be limited to the United States.

Also, there may be a cultural aspect to this. If releasing a non-contagious toxin in, say, a subway station is considered by large parts of Islamic culture to be a cowardly way to attack your enemy, then this could be costly to them. It could damage their support in the same way that releasing a contagious toxin could, even though the effects of the actual attack would be much more direct and localized.

The most important event of the second half of the 20th century is one that didn't happen.

RF: I would like to talk about your famous checkerboard example as it applies to racial segregation. You have written, "A moderate urge to avoid small-minority status may cause a nearly integrated pattern to unravel, and highly segregated neighborhoods to form." Could you describe how this process unfolds?

Schelling: When I started thinking about this question, many American neighborhoods were either mostly white or mostly black. One possible explanation for this, of course, was rampant racism. But I was curious about how this might emerge in a world where racism was not particularly acute, where in fact people might prefer racial diversity.

The process works basically like this. Let's say the racial composition of a neighborhood is 55 percent white and 45 percent black, and that the majority population in the surrounding areas is utterly without prejudice. Then you may get a case where more and more members of the majority group move in. This may be fine with the minority group for a while. They may not mind going from being 45 percent of the population to 35 percent. But at some point — say, when their part of the population is only 20 percent — then the most sensitive members of that group will probably evacuate, reducing their percentage even further. The result is a highly segregated neighborhood, even though this wasn't the intent of the majority population.

I wanted to come up with an easily understandable mechanism to explain this phenomenon that I could use in teaching a class. I spent several summers at the RAND Corporation, which had a good library. I looked at several sociological journals, trying to find something I could use, but I wasn't able to find anything suitable. So I decided I would have to do something myself.

One day, I was flying home from somewhere and had nothing to read. So I passed the time by putting little "X"s and "O"s in a line, with one group representing whites and the other representing blacks, and used the assumption that there was a moderate desire to avoid becoming part of a very small minority group. Well, it turned out that this exercise was very hard to do on paper, because you had to keep erasing and starting over.

But my son had a coin collection at the time, and he had a bunch of copper coins and a bunch of zinc coins. I laid them out, and then I decided that putting them in a line wasn't good enough. You needed more dimensions. So I arranged them on a checkerboard. I got my 12-year-old son to sit down at the coffee table with me, and we would move things around. Soon, we got quite used to how it worked and how different the results were if one group was more discriminating than the other or if one group was more numerous than the other.

I published my results, and it got quite a bit of attention at the time. But it wasn't until 25 years later that I realized that this game had pioneered some of the work in what is called "agent-based modeling" and which is used in a variety of disciplines in the social sciences. At the time I was working out this example I didn't realize that I was engaged in an area of research that would one day have a formal name.

RF: How did you become involved with the Copenhagen Consensus and what type of policy proposals has the group offered?

Schelling: I don't know precisely why I was chosen. Bjorn Lomborg, the organizer of the project, wanted to gather a group of economists of some reputation, and he probably knew that I had written about the greenhouse gas issue. So that was probably the connection.

When the project started we had a United Nations list of global problems related mostly to development and poverty. We were asked to look over that list and pick 10 that we thought would be worth pursuing. We did that, and then we asked a very distinguished person in that field to write a major paper on the issue, along with two other people to write critiques of the paper.

Somewhere along the way, we began to emphasize an idea that wasn't clear to me at the outset and that I think wasn't clear to many other people — namely, that this was mainly a budget priority exercise. We were supposed to do cost-benefit analysis. We were told that we had \$50 billion to spend, and we should decide which projects would provide the most welfare benefit for the money.

Unfortunately, that approach had not governed our choice of projects and had not governed the way the papers were written. For instance, no one really had a good idea of what you could do with some part of \$50 billion to generate more liberal trade. The same was true with education. The papers argued that unless you can reform the educational systems in the big industrialized countries, more money won't help. Similarly, it wasn't clear to us how more money would help us prevent the spread of financial crises. So we had about five topics that really did not fit, and we treated many of them as not applicable. In retrospect, I think we should have treated climate change in the same way.

Of those projects where we could see how the expenditure of money would help, restricting the spread of HIV and AIDS seemed like it should be at the top of the list. It is just so crucially important that we advocated spending about half of the money on it. Then there were some projects, like malnutrition and malaria control, where you just got so much for your money, that we put them near the top also. Projects to improve sanitation also were deemed quite worthwhile.

In general, I think that the program was successful in some ways and less successful in others. And if we had it to do all over again, I think that we could do an awful lot better.

RF: How did you come to the University of Maryland?

Schelling: In the 1980s, Congress passed a law making it illegal for most businesses to have a mandatory retirement age for most employees. But they allowed colleges and universities a seven-year grace period. Harvard, at the time, had mandatory retirement at 70, and I was going to be 70 before the grace period expired. Well, I was in good health, felt that there was more research that I wanted to do, and still enjoyed teaching. So I let it be known that I could be attracted to another university. My first preference was a university in Southern California, where I grew up. But then a former colleague and a very good friend of mine who was dean of the University of Maryland's School of Public Affairs called, and I told him about my situation. He asked me not to accept another offer until I heard from him. It also turned out that the chairman of the economics department had been my teaching fellow at Harvard in the 1960s. So I had two very close connections at Maryland, and I also knew a few other people on the faculty, like Mancur Olson. Plus, as we have discussed, much of my work is very policy-oriented, which made the Washington area pretty desirable to me. Overall, it seemed like this would be a good fit for me, so when the president of the university made me a very generous offer, I accepted it. I have been at Maryland since 1990. I still teach a class or two, but I am now in an emeritus position. **RF**

BOOK REVIEW

America the Unusual

FIGHTING POVERTY IN THE U.S. AND EUROPE: A WORLD OF DIFFERENCE

BY ALBERTO ALESINA AND EDWARD L. GLAESER

NEW YORK: OXFORD UNIVERSITY PRESS, 2004, 250 PAGES

REVIEWED BY AARON STEELMAN

In 1906, the German economist Werner Sombart famously asked, "Why is there no socialism in the United States?" In the century since Sombart posed that provocative question, numerous social scientists have offered their own answers. Most notable is the sociologist Seymour Martin Lipset, who has spent much of his career trying to explain what he calls "American exceptionalism." Yet no one has been able to provide a definitive answer.

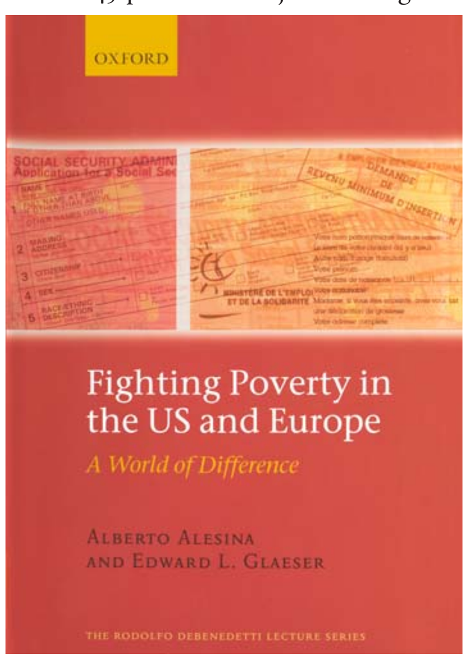
Part of the problem is multicausality. People generally agree that there are several factors at work. But it's not clear which factors are most important, or what combination of factors provide the most reasonable answer.

In *Fighting Poverty in the U.S. and Europe: A World of Difference*, Harvard University economists Alberto Alesina and Edward Glaeser bring the tools of modern economics to bear on a similar question: Why do European countries typically have significantly larger welfare states than does the United States?

They begin their discussion with a brief recap of some of the relevant facts. Government expenditures in the United States are equal to roughly 30 percent of gross domestic product (GDP), compared to about 45 percent for continental Europe as a whole and more than 50 percent in some individual European states, such as Sweden. Much of the difference in the figures can be attributed to Europe's more generous social welfare programs, which on net tend to shift income from the wealthy to the poor.

Economic (Non) Factors

Like their predecessors, Alesina and Glaeser find that there are multiple reasons for such cross-Atlantic differences. But somewhat to their surprise, they conclude that those variables which economists might expect to lead to more redistribution of wealth do not have much explanatory power.



For instance, one might surmise that there would be more demand for redistribution in countries with high levels of pretax inequality in order to reduce the dispersion in wealth. But the United States, by any measure, has significantly greater pretax inequality than continental Europe. So if this argument were correct, we would see more redistribution in the United States, when in fact we see the opposite.

A similar argument is that demand for redistribution could be determined by social mobility. Those countries that tend to see smaller shares of their populations move up the income distribution over the course of their lives might seek a more active role for the state in the economy. This argument has some empirical support. Members of the middle class in the United States tend to be more upwardly mobile than the European middle class. But when you look at the poorest members of society, the situation is quite different. Europeans living in poverty are more likely to improve their economic standing over time than are the poor in the United States. As a result, Alesina and Glaeser are "led to believe that the differences between the United States and Europe are not the result of greater American mobility."

Another possible economic explanation for Europe's greater level of income redistribution could depend on the relative efficiency of tax systems. If European tax collection produced smaller social losses, then the cost of the welfare state would be lower. Alesina and Glaeser reject this argument with the following, almost rhetorical question: "Could it really be possible that the tax collectors in Italy are so much more effective than the American Internal Revenue Service?"

Finally, the authors consider economic stability as a possible reason. The welfare state is often seen as protecting people from sudden changes in the economy. So you might expect that places where economic ups and downs are more frequent or severe would have larger welfare states. But the variability of growth and unemployment rates is greater in the United States than in Europe. Yet, as we have seen, the U.S. welfare state is considerably less generous, making this argument implausible.

Political Factors

"Our examination of explanations which we labeled as purely 'economic' has left us almost completely empty-handed," Alesina and Glaeser conclude. They turn next to what they label "political" explanations — those that "emphasize the state, the political arena, and political institutions" — and here they find more success.

At first, this may not seem like a very fruitful area of inquiry. After all, the United States and the countries of continental Europe that Alesina and Glaeser examine are all liberal democracies. How, then, could those countries' political systems explain the difference in the sizes of their welfare states?

The answer is that most European democracies have significantly different rules for implementing public policies than does the United States. In particular, most European states have systems of proportional representation that make it possible for fringe parties, such as the Socialist and Communist parties, to gain entry to the political system and build coalitions with more mainstream left-of-center parties. Once in power, the fringe actors often can influence the platform of the broad left-wing coalition, pushing it to adopt more radical proposals, which lead to greater redistribution of income.

U.S. political institutions make radical change relatively difficult.

In contrast, the American winner-takes-all system tends to encourage candidates to move more closely to the positions of the median voter, as the economist Anthony Downs explained in his seminal 1957 book *An Economic Theory of Democracy*. Such a system makes it difficult for third-party candidates to win office, or even for more ideologically extreme candidates within a major party to gain power. Consider that of the 435 members of the U.S. House of Representatives, 434 belong to one of the two major parties. Bernie Sanders of Vermont, an Independent, is the only exception.

But this begs the question: What caused the states of continental Europe to adopt systems of proportional representation? After all, those systems are relatively new, with most being adopted in the 20th century. Alesina and Glaeser offer two explanations.

First, labor strikes in the early 1900s effectively shut down economic life in the smallest states of continental Europe (Belgium, the Netherlands, and Switzerland) as well as in those states where the population is highly concentrated in one or two cities (Finland and Sweden). As a result of these crippling strikes, the labor movement was able to effectively push for electoral reform. Second, in many of the larger states of continental Europe (Austria, Germany, and Italy), systems of proportional representation were adopted following World War I, when those countries were in economic and political disarray. So although the United States is a much "newer" country than most of the states of continental Europe, its political institutions tend to be significantly older and more stable. Perhaps most important, they are designed to make radical change relatively difficult to achieve.

Race and Ideology

Alesina and Glaeser argue that race also can help explain differences in the American and European welfare states. The United States is a much more diverse society than any of the countries of continental Europe, and in America poverty tends to be highly concentrated among minority groups. "As a result, it is much easier to convince a white middle-class person in the United States to think that the poor are 'different' (read black) than to convince a white middle-class person, say, in Sweden," Alesina and Glaeser write. Such "racial divisions and racial preferences appear to deter redistribution," they conclude.

This argument may generally be correct. But one is left wondering how the passage of Great Society programs, which greatly expanded America's welfare state, fits into this story. Those programs, of course, were passed in the mid-1960s, as the Civil Rights struggle also was gathering steam. It's true that widespread backlash against those programs, as well as laws that helped protect civil rights, arguably cost the Democrats support in the South and thus retarded further expansion of the welfare state. But it's not clear how Medicaid and the Department of Housing and Urban Development, both of which benefited minorities disproportionately, would have passed initially if race was the important factor that Alesina and Glaeser suggest.

Also, the authors may not have paid sufficient attention to ideology. This is understandable: Ideology is hard to measure. But it surely was an important factor in explaining why America's Founders established the political system they did. And that is true even if one also accepts, as Alesina and Glaeser do, that the Founders had a large economic stake in passing a constitutional structure that placed relatively tight limits on government. Ideology also helps us understand why that political system remained largely unchanged during the Great Depression. The New Deal significantly expanded the role of the state, to be sure, but America's fundamental political structure remained intact, even in a time of extreme crisis.

Conclusion

At the outset of the book, Alesina and Glaeser inform readers that their "interest is in the explanation of why the welfare state, not in its costs and benefits." Overall, they have made an important contribution to this enduring debate. One hopes that they will now turn their formidable analytical powers toward answering that question which they have left unaddressed: What have these quite different welfare states meant for the economic well-being of the United States and continental Europe? Such a discussion would make for an excellent companion volume. **RF**

District Economic Overview

BY ROBERT LACY

Economic growth was relatively strong in most sectors of the Fifth District economy in the fourth quarter of 2004. The broad services sector expanded at a solid pace as ongoing gains in employment and income drove demand for services higher.

Housing markets were particularly strong; new home construction was well above the pace of a year earlier and home prices rose sharply in a number of District states. Manufacturing was a soft spot, however, as growth in shipments and new orders slowed and factory employment edged lower. Job growth was somewhat stronger in other sectors of the economy, though, pushing the District's unemployment rate down to 4.6 percent.

> "The Fifth District economy continued to expand at a solid pace as 2004 came to a close."

Services Sector Expands but Retail Soft

The Fifth District's services sector expanded at a brisk pace during the fourth quarter. Services firms generally reported solid revenue growth throughout the period. Retailers said merchandise sales growth was spotty early in the quarter, but improved in late December. Sales of automobiles and other big-ticket retail items, though, were soft throughout the quarter.

One of the District's largest retailers, Richmond, Va.-based Circuit City, continued to struggle in a difficult retail environment. In February, it announced the closing of 19 stores, mainly in the Midwest, in an effort to cut costs. A distribution center in Doswell, Va., will also be closed.

Manufacturing Growth Slows

In order to gauge developments in the manufacturing sector, the Richmond Fed now releases a composite manufacturing index. This index more broadly reflects activity in the sector by combining what manufacturers tell us about shipments, new orders, and employment. The composite index suggests that growth in manufacturing activity slowed substantially in the fourth quarter of 2004. The weaker readings were the result of lower index values for shipments, new orders, and employment during the quarter.

Reports of higher prices for raw materials were more in evidence among respondents in October and November. Steel, plastic, and natural gas were among those commodities most frequently mentioned as rising rapidly in price. But raw material price hikes eased toward the end of the year, and prices for finished goods rose only modestly.

District Job Performance Bests Nation's

We track monthly payroll employment numbers closely because these data are among the timeliest measures of economic performance available at the state level.

Fifth District payroll employment in the fourth quarter was 1.9 percent higher than a year earlier, a somewhat stronger growth rate than the 1.6 percent rate of the United States as a whole. Growth was above 2 percent in Maryland and Virginia, the two fastest-growing states in the District. By sector, employment growth continued to be centered in services.

House Prices Soar

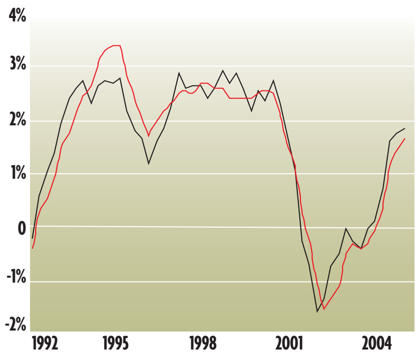
House prices in the District of Columbia and in parts of Maryland and Virginia have skyrocketed over the last year. HUD's Office of Federal Housing Enterprise Oversight tracks state-level house prices on a quarterly basis. According to their statistics, prices in the District of Columbia in the third quarter of 2004 were 23 percent higher than a year earlier.

Increases in Maryland and Virginia were 19 percent and 16 percent, respectively. Prices in other Fifth District states rose at a more modest 5 percent to 8 percent pace during the period.

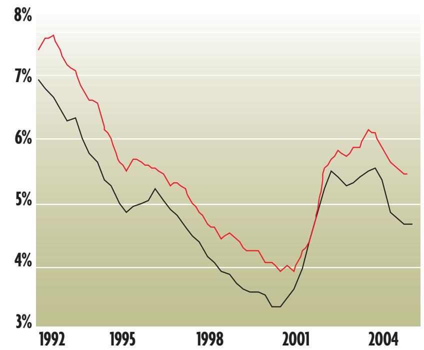
Economic Indicators

	4th Qtr. 2004	4th Qtr. 2003	Percent Change (Year Ago)
Nonfarm Employment (000)			
Fifth District	13,254	13,011	1.9
U.S.	132,294	130,168	1.6
Real Personal Income ($bil)			
Fifth District	870.5	838.2	3.9
U.S.	9,152.4	8,794.2	4.1
Building Permits (000)			
Fifth District	53.4	49.8	7.1
U.S.	471.7	451.8	4.4
Unemployment Rate (%)			
Fifth District	4.6%	5.3%	
U.S.	5.4%	5.9%	

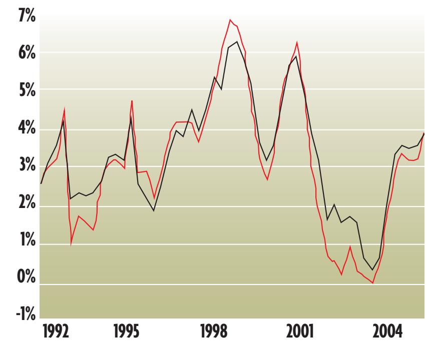
Nonfarm Employment
Change From Prior Year
First Quarter 1992 - Fourth Quarter 2004



Unemployment Rate
First Quarter 1992 - Fourth Quarter 2004

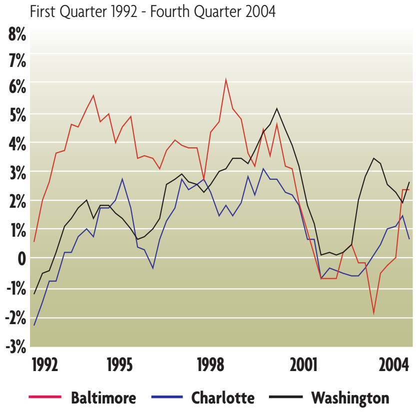


Real Personal Income
Change From Prior Year
First Quarter 1992 - Fourth Quarter 2004

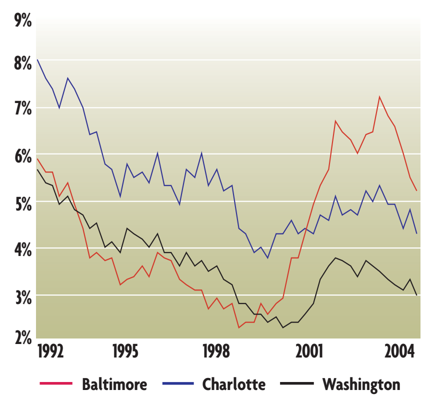


Fifth District — **United States**

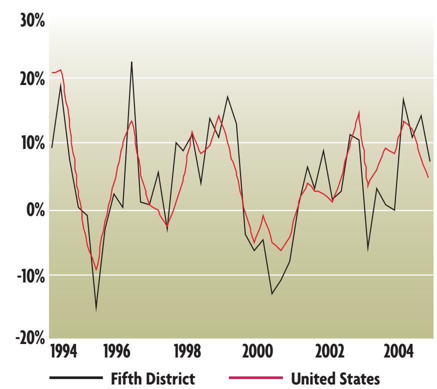
Nonfarm Employment Metropolitan Areas
Change From Prior Year
First Quarter 1992 - Fourth Quarter 2004



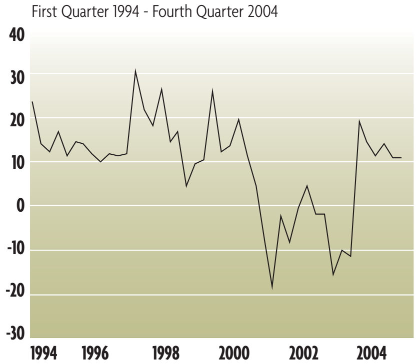
Unemployment Rate Metropolitan Areas
First Quarter 1992 - Fourth Quarter 2004



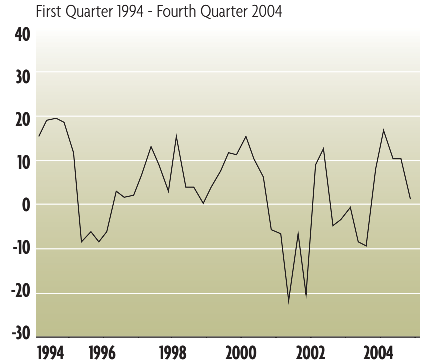
Building Permits
Change From Prior Year
First Quarter 1992 - Fourth Quarter 2004



FRB—Richmond Services Revenues Index
First Quarter 1994 - Fourth Quarter 2004

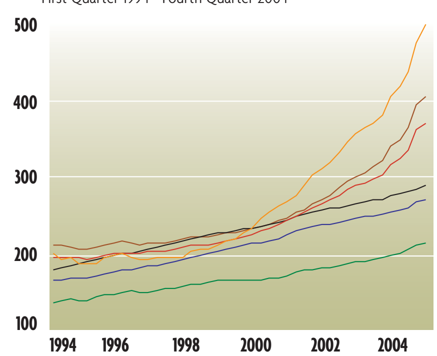


FRB—Richmond Manufacturing Composite Index
First Quarter 1994 - Fourth Quarter 2004



House Price Index
(1980 Q1 = 100)
First Quarter 1994 - Fourth Quarter 2004

MD VA
NC WV
SC DC



NOTES:
1) FRB-Richmond survey indexes are diffusion indexes representing the percentage of responding firms reporting increase minus the percentage reporting decrease.
The manufacturing composite index is a weighted average of the shipments, new orders, and employment indexes.
2) Metropolitan area data and building permits are not seasonally adjusted (nsa); all other series are seasonally adjusted.

SOURCES:
Income: Bureau of Economic Analysis, U.S. Department of Commerce, http://www.bea.doc.gov.
Unemployment rate: LAUS Program, Bureau of Labor Statistics, U.S. Department of Labor, http://stats.bls.gov.
Employment: CES Survey, Bureau of Labor Statistics, U.S. Department of Labor, http://stats.bls.gov.
Building permits: U.S. Census Bureau, http://www.census.gov.
House prices: Office of Federal Housing Enterprise Oversight, http://www.ofheo.gov.

For more information, contact Robert Lacy at 804-697-8703 or e-mail Robert.Lacy@rich.frb.org.

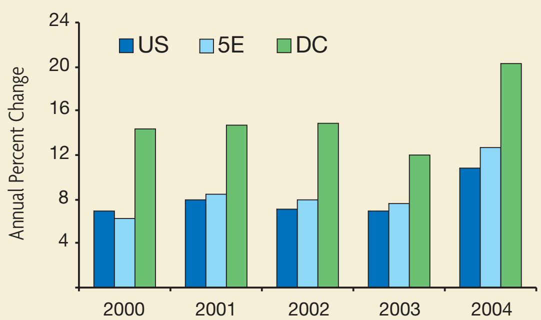
State Economic Conditions

BY ANDREA HOLLAND

District of Columbia

As 2004 drew to a close, business conditions in the District of Columbia continued to show improvement, but conditions of households softened. Businesses in the District of Columbia continued to tack on jobs in the fourth quarter. Payroll employment expanded 0.1 percent, marking five consecutive quarters of job growth. Among sectors, education and health services establishments led the gains, adding 4,300 jobs. By comparison, construction posted the weakest performance, trimming 733 jobs. Looking ahead, the refurbishment of the RFK stadium and construction of a new major league baseball stadium are expected to create 900 new jobs later this year.

DC Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

Other recent economic indicators also pointed to an upturn at businesses. Venture capital inflows into District of Columbia firms totaled $38 million in the fourth quarter, the largest quarterly increase in three years.

Moving on, the financial conditions of households were mixed. The District of Columbia's unemployment rate edged up to 8.8 percent in the fourth quarter — the highest rate since the third quarter of 1998. On a more positive note, the number of unemployment benefits claimants decreased in the fourth quarter, following a slight uptick the quarter before.

Turning to the District of Columbia's real estate market, home prices reached an all-time high in the fourth quarter, standing 23.0 percent higher over the year. But sharply steeper prices didn't deter buyers — in excess of 18,000 homes were sold during the period, a new record. Underlying strength was apparent in readings on future construction as well. Fourth-quarter building permit authorizations were 3.6 percent above third-quarter levels.

News from the broadly defined Washington, D.C. MSA was more upbeat than in the District of Columbia proper. Boosted by a surge in defense and homeland security spending and an improved outlook at high-tech related businesses, fourth-quarter payrolls expanded 4.1 percent and the unemployment rate dropped 0.3 percentage points to 3.0 percent.

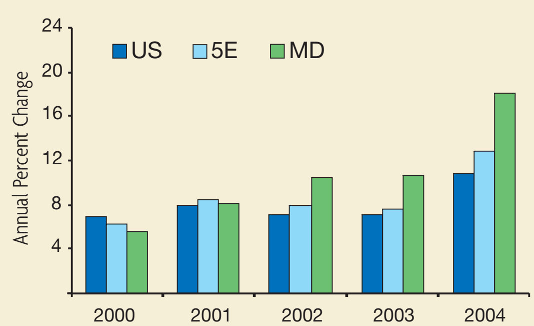
Maryland

Barometers of Maryland's economic health were generally bright at the end of 2004. Businesses in the state continued to add jobs in the fourth quarter, marking two straight years of positive payroll growth. Gains came almost entirely from service-providing establishments — goods producers in the state trimmed jobs during the period.

Adding to the upbeat tone, venture capitalists infused $236 million into Maryland businesses in the fourth quarter, almost tripling the third-quarter inflow and registering the largest gain in exactly three years. The most exciting news was that 38.5 percent of the funding went toward seed stage businesses, leading some analysts to suggest the beginning of a long-awaited pickup in investor confidence.

Financial conditions at Maryland households also brightened. Keeping with stronger payroll growth, the jobless rate fell 0.3 percentage points to 3.9 percent, remaining well below the national rate. In contrast, another indicator of labor force activity — initial jobless claims — inched higher in the fourth quarter, following three quarters of improvement.

MD Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

Looking at real estate conditions in Maryland, residential activity remained on target, despite a blip in home sales. Sales of existing homes contracted 0.5 percent in the fourth quarter, making Maryland the only District state to record a slowdown during the period. Despite softer sales, home prices continued to increase with the median-priced home now 18.6 percent more expensive than a year ago. Tracking sales activity, building permits also dwindled in late-2004, but remained 4.8 percent above a year earlier.

The Baltimore metro area economy continued to outperform the state as a whole. Payrolls rose by a solid 5.1 percent in the fourth quarter, and the jobless rate plummeted 0.5 percentage points to 4.3 percent. New construction activity in Baltimore outperformed other areas of the state — building permits jumped 73.5 percent from the third quarter. In other news, Baltimore's commercial real estate market continued to warm, albeit slowly. Fourth-quarter office and industrial vacancy rates came in below levels posted a year ago.

North Carolina

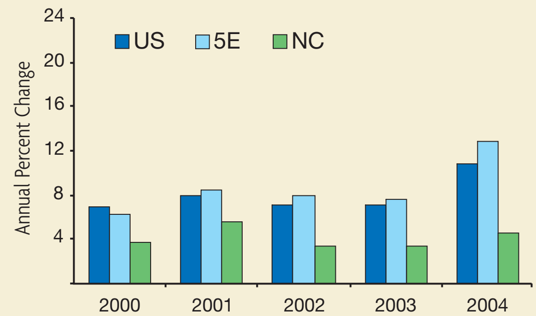
North Carolina's economy advanced steadily in the fourth quarter of 2004. Businesses in the state continued to expand hiring, causing payroll employment to expand by 1.3 percent in the fourth quarter — the third straight quarterly increase. By sector, job numbers picked up most at government and leisure and hospitality establishments. By comparison, job losses were greatest in the manufacturing sector, where the broader economic recovery has yet to fully establish itself.

In other business news, the latest numbers on venture capital investment were very encouraging. Fourth-quarter inflows totaled $114 million — the largest quarterly injection in two years. The majority of the capital was slotted for expansion-stage and later-stage companies.

Household financial conditions remained steady. Despite the solid gain in payroll employment in late-2004, the unemployment rate remained fixed at 5.0 percent as nearly 10,000 new persons entered North Carolina's labor force over the period. On a less positive note, the number of state residents newly applying for unemployment benefits rose by 11.8 percent in the fourth quarter, the second straight increase.

Switching gears, North Carolina's housing market continued to gain strength in the fourth quarter. According to the latest data, home prices rose 6.1 percent in the fourth quarter. Residential realtors were kept on their toes — existing home sales stood 25.4 percent higher in the fourth quarter compared to a year earlier, marking the strongest annual growth rate districtwide. Indicators of future construction were not as robust. New building permits edged 3.0 percent lower in the fourth quarter, following a similar decline in the third quarter.

NC Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

North Carolina's metro areas saw steady job growth in late 2004. In the fourth quarter, Charlotte and Raleigh-Durham posted payroll employment gains of 11.9 percent and 3.8 percent, respectively. Likewise, both metros saw a decline in their jobless rates. In real estate, new construction activity in Charlotte and Raleigh-Durham mirrored that of the state. Both posted a significant drop in new building permit authorizations.

South Carolina

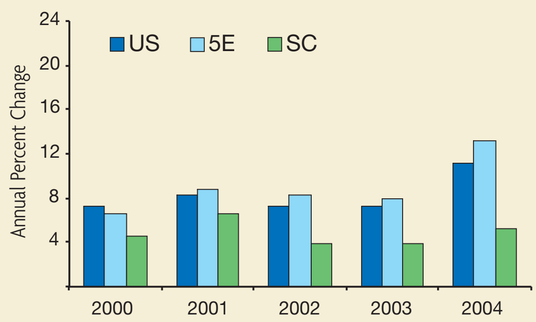
Going into 2005, economic momentum was more evident in South Carolina than a year earlier. Business conditions in the state continued to improve. South Carolina added 4,176 jobs in the fourth quarter, reversing a modest third-quarter loss. By category, the leisure and hospitality sector displayed the most strength — payrolls increased by 15,267. By comparison, the largest loss was recorded in the professional and business services sector, where employment fell by 3,833.

Adding to the positive tone on the business front, venture capitalists injected $12.3 million dollars into South Carolina firms, the largest quarterly inflow since late 2002. Of this total, more that one-third of the venture funding went toward a business still in the start-up stage, possibly suggesting a pickup in investor confidence.

> "Economic momentum was more evident in South Carolina than a year earlier."

The latest data suggested that households in the state may also be experiencing a pickup in confidence — the number of job seekers increased by nearly 10,000 in the fourth quarter. Despite strong job gains, the sizable increase in the labor force pushed the unemployment rate up 0.2 percentage points to 6.6 percent. Initial claims for unemployment insurance in the fourth

SC Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

quarter rose by 16.2 percent but were attributed mainly to seasonal factors.

As in other Fifth District states, the median price for a South Carolina home continued to move higher last year, rising by 5.8 percent. And the evidence suggests that demand pulled prices higher. Fourth-quarter existing home sales were 15.4 percent higher over the year, marking the second strongest growth rate districtwide. Prospects for new construction remained on track — new building permits filed in the fourth quarter were significantly higher over the year.

Fourth-quarter activity in South Carolina's metro areas was mixed. Payroll employment expanded at a robust 6.4 percent rate in Columbia, but Charleston experienced a decline in job numbers — employment contracted 1.0 percent. New construction slowed in both metropolises in the fourth quarter, but as seen statewide, remained well above year-ago levels.

Virginia

Virginia's economic prospects continued to brighten as 2004 drew to a close. The state posted the District's strongest rate of job growth in the fourth quarter as well as the fifth strongest nationwide for all of 2004.

Fourth-quarter payrolls increased by 0.5 percent, or 4,500 jobs, marking the seventh straight quarter of positive job growth. Among major industries, government establishments created the most new jobs, while education and health services businesses cut the most positions.

Mirroring national activity, venture capital investment into Virginia businesses picked up in the fourth quarter. Capital inflows totaled $73.8 million, nearly double the amount recorded in the third quarter. By stage of investment, nearly one-fifth of the funds were infused into seed and startup businesses.

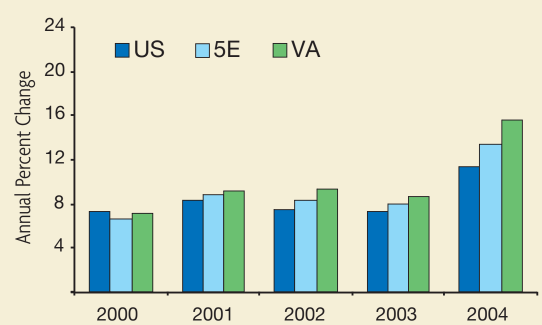
Household conditions also remained on track in the fourth quarter. The jobless rate dropped 0.2 percentage points to 3.3 percent, despite an inflow of 11,300 job seekers into the labor market. And although the number of first-time claimants for unemployment insurance increased by 20 percent, the level remained below that of a year ago.

On the real estate front, the latest readings on home prices suggest that appreciation has continued to heat up. The state recorded a 10.5 percent jump in the fourth quarter alone. As in other states, the increases appear to result from strong demand growth, as illustrated by the 3.4 percent increase in fourth-quarter home sales. New construction, however, advanced at a more moderate pace. The number of building permits issued in the fourth quarter was somewhat below those recorded in the third quarter.

Economic activity in Virginia's metro areas also continued to look up, with businesses in the Norfolk and Richmond metro areas boosting payrolls by 4.3 percent and 3.0 percent, respectively. Much of Richmond's job growth was centered in education and health services — not a surprise since the city is home to several universities and research hospitals. According to a breakdown of the data, Norfolk's labor market was boosted by increased defense and homeland security spending. In line with strengthening labor markets, the jobless rate posted healthy declines in both areas.

> "In Virginia, government establishments created the most new jobs."

VA Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

West Virginia

West Virginia businesses trimmed jobs in the final quarter of 2004 — the only Fifth District state to do so — suggesting that the economic expansion may not have been firmly entrenched in 2004.

Compared to states across the nation, West Virginia ranked 41st in terms of job growth in 2004. Fourth-quarter payroll numbers slipped 1.7 percent, with reductions sprinkled across establishments on the services side of the economy. In contrast, West Virginia goods producers added jobs during the quarter.

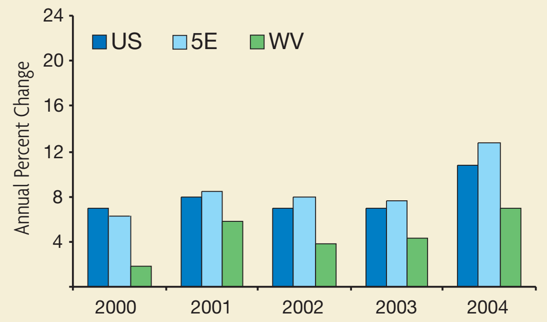
Other business news was more upbeat — venture capital investment into West Virginia businesses totaled $5.3 million in the fourth quarter, following flat inflows in the third quarter. Also positive, nearly 60 percent of the inflows were targeted toward firms in the startup stage.

Moving on, the bounceback at West Virginia households has also been slow to take hold. Mirroring payroll activity, West Virginia was the only District jurisdiction to record a contraction in the labor force in the fourth quarter. The downsizing of the labor market helped facilitate the 0.3 percentage point decline in the jobless rate, despite falling payroll numbers. Also less encouraging, initial claims for unemployment insurance rose in the fourth quarter, reversing three consecutive periods of improvement.

One bright spot of West Virginia's economy in recent years has been real estate, driven in part by historically low mortgage rates and relatively affordable housing. Fourth-quarter home prices expanded at a healthy rate, by 7.6 percent. Some of the price increase likely stemmed from playing catch up with surrounding states, as West Virginia home prices remain the lowest districtwide. Affordable prices have apparently attracted homebuyers, though — sales of existing housing units rose by 4.0 percent in the fourth quarter.

Economic activity was a bit more upbeat in the Charleston metro area than in other areas of the state. Payrolls in that area continued to move higher, rising 0.6 percent in the fourth quarter. In line with the improvement in hiring activity, Charleston's jobless rate fell 0.1 percentage points to 4.1 percent.

WV Home Price Growth



SOURCE: House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics

Behind the Numbers

Maryland added 52,300 to the ranks of the employed in 2004, according to the Labor Department. No wait — make that 63,800, according to the, er, Labor Department.

What gives? The problem is a simple discrepancy between two sets of government-generated numbers: the so-called "payroll" and "household" surveys, from which monthly U.S. job statistics are derived. The payroll survey produced the 52,300 employment growth figure mentioned above, while the household survey came up with the 63,800 number. Sometimes, the differences between the two studies can be even more significant.

In general, economists consider the payroll survey more reliable. Here's why.

The payroll survey, also called the "Establishment Series," is based on reports from a sample of about 400,000 businesses, covering about a third of nonfarm employment. By comparison, the household survey uses a sample of 60,000 homes.

One other key difference is that the payroll survey asks firms how many employees they have, while the household survey asks people whether they have jobs. For that reason, some economists say the household survey may be more effective in capturing the number of self-employed people in the economy as well as in predicting job growth.

Still, "it's clear the payroll survey is the preferred survey for judging changes in business conditions in the near term," says Roy Webb, an economist at the Federal Reserve Bank of Richmond. He adds that, shortcomings notwithstanding, the household survey enjoys broad support from economists as another tool in their analysis kit. "As an economic analyst, I always think more data is better," Webb says.

— Doug Campbell

State Data, Q4:04

	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000)	672.3	2,538.7	3,874.9	1,839.0	3,595.5	733.4
Q/Q Percent Change	0.1	0.5	1.3	0.9	0.5	-1.7
Y/Y Percent Change	1.2	2.1	1.8	1.4	2.2	1.5
Manufacturing Employment (000)	2.5	144.2	576.5	269.8	295.0	63.4
Q/Q Percent Change	0.0	-0.5	-3.9	-0.9	-0.5	0.0
Y/Y Percent Change	-2.6	-0.5	-2.2	-1.5	-0.7	-0.9
Professional/Business Services Employment (000)	146.9	370.9	447.5	188.7	581.5	56.5
Q/Q Percent Change	3.0	-3.3	3.3	-7.7	0.3	-3.7
Y/Y Percent Change	3.4	3.0	5.4	0.3	4.7	0.3
Government Employment (000)	231.9	462.7	664.2	336.0	660.3	142.3
Q/Q Percent Change	-0.4	-2.8	6.0	1.7	3.9	-4.9
Y/Y Percent Change	0.5	0.7	1.6	1.2	2.9	1.0
Civilian Labor Force (000)	307.8	2,956.9	4,187.6	2,082.0	3,853.5	801.0
Q/Q Percent Change	9.2	0.6	0.9	1.8	1.2	-0.8
Y/Y Percent Change	2.3	1.7	-1.6	3.3	1.8	2.7
Unemployment Rate (%)	8.8	3.9	5.0	6.6	3.3	5.0
Q3:04	7.8	4.2	5.0	6.4	3.5	5.3
Q4:03	7.0	4.5	6.3	6.9	3.9	5.7
Personal Income ($bil)	27.0	205.4	236.0	107.5	250.2	44.3
Q/Q Percent Change	1.6	1.6	1.5	1.3	1.7	1.7
Y/Y Percent Change	3.9	3.6	3.5	3.1	4.6	4.1
Building Permits	347	7,211	20,382	10,677	13,669	1,082
Q/Q Percent Change	15.1	-11.5	-49.2	-5.2	-48.4	-70.3
Y/Y Percent Change	298.9	4.8	4.8	30.0	-2.8	-3.9
House Price Index (1980=100)	496.2	403.4	289.3	270.7	369.3	215.2
Q/Q Percent Change	19.9	9.8	6.1	5.1	10.5	7.6
Y/Y Percent Change	23.0	18.6	5.2	5.8	16.4	8.0
Sales of Existing Housing Units (000)	18.1	153.4	375.1	176.4	210.1	39.3
Q/Q Percent Change	19.1	-0.5	4.4	4.7	3.4	4.0
Y/Y Percent Change	8.4	10.1	25.4	15.4	13.1	14.2

NOTES:
Nonfarm Employment, thousands of jobs, seasonally adjusted (SA); Bureau of Labor Statistics (BLS)/Haver Analytics, Manufacturing, thousands of jobs, SA; BLS/Haver Analytics, Professional/Business Services, thousands of jobs, SA; BLS/Haver Analytics Government, thousands of jobs, SA; BLS/Haver Analytics, Civilian Labor Force, thousands of persons, SA; BLS/Haver Analytics, Unemployment Rate, percent, SA; BLS/Haver Analytics, Personal Income, billions of chained 2000$, Bureau of Economic Analysis/Haver Analytics, Building Permits, number of permits, NSA; U.S. Census Bureau/Haver Analytics, House Price Index, Office of Federal Housing Enterprise Oversight/Haver Analytics, Sales of Existing Housing Units, thousands of units, SA; National Association of Realtors®

Metropolitan Area Data, Q4:04

	Washington, DC MSA	Baltimore, MD MSA	Charlotte, NC MSA
Nonfarm Employment (000)	2,937.2	1,282.3	856.6
Q/Q Percent Change	4.1	5.1	11.9
Y/Y Percent Change	2.7	2.0	2.8
Unemployment Rate (%)	3.0	4.3	5.2
Q3:04	3.3	4.8	5.5
Q4:03	3.3	4.9	6.8
Building Permits	7,866	2,884	4,642
Q/Q Percent Change	-57.9	73.5	-61.2
Y/Y Percent Change	2.1	-5.8	3.2

	Raleigh, NC MSA	Charleston, SC MSA	Columbia, SC MSA
Nonfarm Employment (000)	703.3	266.7	307.5
Q/Q Percent Change	3.8	-1.0	6.4
Y/Y Percent Change	2.3	2.4	2.3
Unemployment Rate (%)	3.2	4.3	4.1
Q3:04	3.3	4.6	4.3
Q4:03	4.2	4.5	4.0
Building Permits	3,099	2,059	1,649
Q/Q Percent Change	-45.3	-29.5	-23.6
Y/Y Percent Change	-5.8	22.3	44.3

	Norfolk, VA MSA	Richmond, VA MSA	Charleston, WV MSA
Nonfarm Employment (000)	750.4	575.1	134.5
Q/Q Percent Change	4.3	3.0	0.6
Y/Y Percent Change	1.2	1.5	0.5
Unemployment Rate (%)	4.0	3.7	4.1
Q3:04	4.4	4.2	4.2
Q4:03	4.1	4.0	4.2
Building Permits	2,621	2,127	68
Q/Q Percent Change	44.4	-40.3	-76.8
Y/Y Percent Change	-16.8	-1.1	4.6

For more information, contact Andrea Holland at 804-697-8273 or e-mail Andrea.Holland@rich.frb.org.

OPINION

Evil Empire?

BY CHARLES GERENA

We are a nation built on capitalism. Americans value progress and venerate the entrepreneurs who blaze new trails in the pursuit of profits.

As a nation born of revolution, however, we also distrust any institution that gets too big for its britches. Entrepreneurs from Andrew Carnegie to Bill Gates became magnets of criticism as their once-fledgling companies grew into corporate behemoths.

The truth is big business is neither a bully nor a benefactor. Its goal is to make money. In the process, it tends to serve its own interests as well as those of consumers. However, not all firms conduct themselves in ways that the public deems socially acceptable.

America's love-hate relationship with big business predates the appearance of the first Wal-Mart discount store. The late 1800s saw the rise of industrial powerhouses like Standard Oil and U.S. Steel. Magnates such as John D. Rockefeller and J.P. Morgan profited as wealth became more concentrated and fears of diminishing market competition grew.

However, they weren't supposed to be the only ones made better off by industrial concentration. This was supposed to be good for society in general. Morgan Witzel, in his introduction to an edited volume titled *Big Business and the Muck-Rakers, 1900-1910*, explains the mindset at the time: "Without the need to compete and spend money fighting off business rivals, corporations could concentrate on becoming more efficient, reducing costs, and providing cheaper goods to the public."

> "Economies of scale enable companies to lower their prices for goods and services, which benefits the consumer."

Things didn't turn out that way, though. Many prices didn't fall and inefficiencies remained. On top of that, labor unrest increased and scandals over worker safety and product quality made the headlines of muckraking magazines like *McClure's*. Also, some companies, particularly railroads, used their economic power to garner favorable treatment by lawmakers.

Fast-forwarding to the 1980s, corporate raiders like Carl Icahn and Boone Pickens led hostile takeovers of companies and carved their acquisitions into pieces to sell off at a quick profit. While businesses across America consumed a lot of time and money to keep these wolves at bay, some argue that many weak operations were eliminated, which executives may never have shuttered.

Then there was the spate of corporate scandals of the late 1990s and early 2000s. Companies like Enron, WorldCom, and Adelphia Communications based their growth on questionable accounting practices and financial arrangements obscured from public scrutiny. Eventually, their actions were uncovered, undermining trust in their companies and leading to criminal investigations of CEOs and CFOs.

At this point, you may be wondering: "I thought he said big business wasn't inherently evil? It sure sounds like that's the case."

Well, it isn't. Once a company reaches a certain size, it can reduce its average total costs over the long run by employing machinery that is more efficient, dividing processes and assigning them to specialized workers, and earning discounts on bulk purchases. Such economies of scale enable companies to lower their prices for goods and services, which benefits the consumer.

This alludes to another aspect of becoming big — it is often the result of consumers rewarding a company for giving them what they want. If some firms can satisfy their customers more effectively than their rivals, they will sell more, resulting in increased concentration in an industry.

Microsoft, for instance, now controls an overwhelming share of its market. While the company's current size may dampen its incentive to be innovative, who could really think that we would be better off without its products?

Rather than focus on "bigness," perhaps we should think about why businesses, large or small, go astray. For example, one could argue that excessive regulation provides an incentive for companies to seek out shortcuts that skirt the edge of ethical behavior. Such regulation also may create barriers to entry for new companies.

The more important issue may be the complexity of a company rather than its size. "... Innovative financing techniques have made it more difficult for outside investors to understand a particular firm's risk profile and the performance of its various lines of business," noted Fed Governor Susan Schmidt Bies in a February 2004 speech. "Traditional accounting standards have not kept pace with the risk-management tools employed by sophisticated corporations." Bies suggested that improved corporate transparency would help market participants gauge a company's strategies and actions.

Ultimately, markets exist to optimize the use of scarce resources and produce what people value most. They are concerned with efficiency, not morality. Therefore, consumers must serve as the moral compass of Corporate America. The executives in charge may be obligated to make money for shareholders, but they have to satisfy consumers in order to meet that goal. In the ideal marketplace, good behavior will be rewarded and bad behavior will be punished. **RF**

NextIssue

Corporate Governance
It's been more than three years since accounting scandals at Enron, WorldCom, and other companies led to the passage of the Sarbanes-Oxley Act. That legislation was designed to shed light on corporate misconduct by enhancing disclosure requirements and changing audit rules. How have companies in the Fifth District responded to these new regulations?

Base Closures
In May, the Department of Defense will announce its recommendations for additional closures of military installations. We'll look at what's happened to the community surrounding Fort Pickett, Va., in rural Nottoway County, since that base was closed in the mid-1990s.

Job Market for Recent Graduates
This may be the best job market for new graduates since the late 1990s — though it's not quite rising to the frenzied levels of the dot-com boom. Find out what college recruiting offices and students have to say in this survey of recent grads' experiences in getting their careers started.

Economics of Indian Reservations
Indian reservations are among the poorest places in the United States, with per-capita incomes well below the national average. Why? We'll travel to one of the Fifth District's largest reservations in search of an answer.

Economic History
In the late 1950s, leaders from academia, business, and government envisioned creating a research community in the pine forests bordering Raleigh, Durham, and Chapel Hill. That dream became reality, and today Research Triangle Park is home to more than 100 organizations and 38,000 employees.

Interview
A conversation with Robert Whaples, an economic historian at Wake Forest University and director of EH.Net.

Book Review
Freakonomics: A Rogue Economist Explores the Hidden Side of Everything by Steven Levitt and Stephen J. Dubner.

Visit us online:

www.richmondfed.org

- To view each issue's articles and web-exclusive content
- To add your name to our mailing list
- To request an e-mail alert of our online issue posting

The Summer 2005 issue will be published in July.

F R B R I C H M O N D

Economic Quarterly

The Richmond Fed's *Economic Quarterly* contains original research from the Bank's economists and visiting scholars. To be added to the *EQ* mailing list or to view the issues online, please visit **http://www.richmondfed.org**

Federal Reserve Bank of Richmond
P.O. Box 27622
Richmond, VA 23261
Change Service Requested

PRST STD
U.S. POSTAGE PAID
RICHMOND VA
PERMIT NO. 2

Please send address label with subscription changes or address corrections to Public Affairs or call (804) 697-8109