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REGION FOCUS

THE FEDERAL RESERVE BANK OF RICHMOND

HAS AMERICA
OVERINVESTED IN
HOUSING?



REGION FOCUS

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Henry Thornton, Walter Bagehot, and the Modern Central Bank



In the last issue of *Region Focus*, I discussed some of the problems that could result from Federal Reserve support to troubled financial institutions. In particular, I argued that such support, if not done properly, could encourage institutions to take on risks that they otherwise would avoid. This, of course, is the issue of moral hazard, and it should remain in the forefront of the

minds of policymakers as the economy recovers from the current financial upheaval.

But that raises an interesting issue: How can central banks assist distressed financial institutions without inducing undesirable future behavior by those institutions? In short, how can the Fed act effectively as the lender of last resort?

There is no precise answer to those questions. When the Fed intervenes in the market, its actions often have effects that could not have been perfectly forecast. Policymakers rely on economic science to guide their decisions, but policymaking itself is not an exact science. Instead, it is a complicated exercise that often requires people to act on incomplete information, using the best data and theory available to form decisions.

Such theory is often new work done by leading contemporary economists. But not always. There are times when policymakers can learn much from the writings of the classical economists. I think that the current situation is such an instance.

Writing in the 19th century, Henry Thornton and later Walter Bagehot offered thoughtful advice as to how the Bank of England could act effectively as the lender of last resort. As my former colleague Thomas Humphrey has written, the Thornton-Bagehot framework stressed six key points:

- Protecting the aggregate money stock, not individual institutions.
- Letting insolvent institutions fail.
- Accommodating only sound institutions.
- Charging penalty rates.
- Requiring good collateral.
- Preannouncing these conditions well in advance of any crisis so that the market would know what to expect.

This, I believe, is a good place for modern central bankers to start when they think about how to lend to troubled institutions. If the Fed is going to make funds available, it should do so with the primary goal of protecting sound institutions and the financial industry as a whole. It should not attempt to save every institution. The optimal level of failure in any industry is not zero, and that includes the financial industry.

This is often a fine line to walk. There are cases where it is difficult to know in advance how much collateral damage would result if an institution were to fail. But if the rules of the game are spelled out clearly and the market believes the Fed will stick to those rules, then banks will have a strong incentive to avoid putting themselves in situations where they must come to the Fed to borrow at above-market rates. Moreover, banks will seek to protect themselves against a sudden loss of access to liquidity, promoting efficiency and stability in the financial system.

We are going through what is, in many ways, an unprecedented period in American economic and financial history. Economists and policymakers — and I count myself among both groups — do not know exactly why the financial sector has encountered such disruptions recently, although many plausible hypotheses have been proposed. More to the point, however, we do not know exactly how to most effectively help that sector get through this period. The best we can do is to rely on sound theory, data, and judgment to not only restore the health of the financial sector but also to avoid similar upheaval in the future. In this case, I believe that means drawing upon some longstanding principles about central bank policy. They do not provide all the answers, but they do provide a framework that should prove very useful to the Fed and other central banks around the world.

JEFFREY M. LACKER
PRESIDENT
FEDERAL RESERVE BANK OF RICHMOND

Dollarization Explained

BY STEPHEN SLIVINSKI

In some developing countries, monetary stability might best be achieved by officially adopting a stable foreign currency.

To understand the power of currency to decide the fate of nations — developing nations, in particular — Manuel Hinds, the former finance minister of El Salvador, says it helps to know the fable of Dema Gogo.

Gogo is the president of a fictional, poor developing nation. Shortly after he assumes office, he has a conversation with the devil, who passes along an idea he got from a recently deceased macroeconomist: Create your own currency, make it the legal tender, and force citizens to relinquish their dollars in exchange for the new currency. This appeals to Gogo since it would allow the government to create as much money as it wants and still receive interest from placing the newly acquired dollars in a

U.S. savings account. It's called seigniorage, says the devil. A perfect solution, it seems, for a new ruler who wants to finance all the public works projects he was sure would secure his continued incumbency. He even gives the currency the name "gogo."

But as is always the case with Faustian bargains, there are unexpected consequences.

Oversupply of the currency creates inflation. That's a nice thing for exporters who can sell to overseas consumers in exchange for more-valuable dollars but bad for laborers who have begun to protest the increased prices of imports.

So the devil suggests devaluing the currency by raising the official exchange rate of the dollar from one to two gogos. That protects the

government's reserve of dollars from falling lower due to increased demand by citizens for the sounder currency. But it also scares international investors afraid of another devaluation and suddenly the country faces higher interest rates in international capital markets.

The vicious spiral continues. More political pressure from labor unions spurs the president to order the printing of more gogos to pay wages. Then his advisors tell him that he has lost all credibility with foreign creditors and many voters. Soon, the president finds himself running from an angry mob of citizens and during the pursuit falls off a cliff to his death.

This fable provides insight to the very real havoc created by political control over monetary policy in the developing world, particularly in Latin America. As a response to those economically dangerous impulses, some economists have suggested that a way for these economies to break out of the trap is to hitch their currency to the U.S. dollar — an action known as "dollarization." Yet there are a variety of ways of achieving this, and the distinctions between them could have important consequences for economic growth.

The How and Why of Dollarization

The term "dollarization" describes a shift away from a country's domestic currencies toward a foreign currency — typically the U.S. dollar, but not always — as a store of value, unit of account, and medium of exchange. Official dollarization occurs when a country explicitly makes a foreign currency the preferred legal tender.

There are a few countries that have taken this direct route. The two biggest economies in this category are El Salvador and Ecuador. The former



Argentina instituted a "currency board" system in 1991, but never adopted a policy of full dollarization. Argentine pesos like those pictured are still in circulation today.

has been dollarized since 2001, the latter since 2000. Panama dollarized in 1904. There are four other smaller countries that have fully dollarized: the Marshall Islands, Micronesia, Palau, and the British Virgin Islands. Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, and the U.S. Virgin Islands are dollarized, too, as a result of being U.S. territories.

But the shift toward a foreign currency can occur in countries in which it is not considered legal tender. In fact, this form of “unofficial” dollarization in which citizens prefer other currencies in domestic transactions or as a means to safeguard the value of their bank savings is more common than the official form.

While data on the scope of unofficial dollarization worldwide are hard to come by, the most recent figures from economist Edgar Feige of the University of Wisconsin-Madison are illustrative. The countries with the highest degree of unofficial dollarization — the amount of foreign currency in circulation in each country as fraction of the effective money supply — were Bolivia, Nicaragua, Uruguay, Croatia, and Russia (see table on page 4).

The holders of foreign currency in these economies are investing in a hedge against the (often very high) inflation of their domestic currency. So the main benefit of official dollarization — especially when coupled with an elimination of the central bank functions of the government — would come from the monetary stability that follows from the divorce of politics and monetary policy. The transaction costs from shifting to such an arrangement could also be low in the countries listed here since so many citizens already use the sounder currency.

There are other ways of dollarizing an economy. Instead of eliminating the central bank function, a government can replace it with a “currency board.” This board would be responsible only for maintaining a specific exchange rate between the domestic currency and the foreign currency of choice. Another solution would be to keep the country’s central bank in its old form and task it with the exchange rate stability role. These forms of “soft” dollarization, however, could tempt policymakers to use the monetary tools that are still available to them and weaken the currency again. (As we’ll see later, that’s the problem that afflicted Argentina.)

The textbook version of any of these forms of dollarization would lead to a more hospitable environment for economic growth. In a predollarized scenario, the risk premiums — and, therefore, interest rates — charged by overseas lenders would be high. In a dollarized scenario, lower real interest rates for those borrowing from international capital markets follow when the risk premiums fall.

The main benefit of official dollarization would come from the monetary stability that follows from the divorce of politics and monetary policy.

Dollarization also reverses the isolation that results from having an unstable currency: The newly dollarized economy will soon find itself more integrated with international capital markets. And the ability of businesses to make long-term plans becomes more viable with the stability of the newfound currency.

There are trade benefits, too, which are especially important to developing countries for which exports compose a large share of

the economy. Dollarization reduces the transaction cost of exchanging one currency for another. This may not seem like a big problem, but it certainly can have real effects. Take trade between Canada and the United States, for instance. Various studies have concluded that Canadian provinces tend to trade more with each other than with states in the United States to which they are closer geographically. Even with lower trade barriers between the two countries since NAFTA, it appears that the transaction cost of trading out currencies has been a contributor to lower trade volume than one would otherwise expect.

But there is another side of this coin, so to speak. From the perspective of policymakers, there are indeed downsides to getting rid of the government’s control over monetary policy. It eliminates the ability of a central bank to serve as a lender of last resort and pursue other actions that can provide stability to the macroeconomy in the face of aggregate supply or demand shocks. The government would also lose the revenue generated by seigniorage.

Others have argued that the incentives of the anchor country could be altered by widespread dollarization of developing economies. Because the anchor country presumably already has a central bank with the ability to adjust to economic shocks, the policymakers there might have to consider how their actions will affect the smaller countries that rely on their monetary stability. This won’t be a problem if the anchor country is likely to experience the same sorts of simultaneous shocks as the dollarized country. But if the dollarized countries are subject to idiosyncratic shocks that are foreign to the anchor country, there may be international pressure on the latter to take a policy stance that benefits the former.

Dollarization could also deal a blow to “national pride” in a country that adopts it. Few politicians are likely to want to admit that their country’s currency is troubled. Indeed, such a concern among policymakers in the developing world is often pointed to by economists like Nobel laureate Robert Mundell as a reason for why more countries don’t dollarize.

Perhaps most fundamentally, dollarization will achieve its desired goal only if the anchor country pursues wise monetary policies that result in price stability. For instance, that has generally been the case in the United States for more

than two decades, but there have also been missteps along the way, such as in the 1970s, when inflation reached double digits. Under such circumstances, it's unclear that dollarization is preferable to maintaining an independent currency and central bank.

Still, from the perspective of most of the citizens who hold the currency, only the last of these concerns is likely to be seen as an actual downside. And there have been solutions proposed to overcome some of these shortcomings perceived by policymakers. Take the loss of seigniorage, for example. The anchor countries could easily share the seigniorage revenue with the countries that adopt its currency. Such a revenue-sharing arrangement existed between the British government and some of its colonies before the 1950s. There also exists a seigniorage-sharing agreement between the European Central Bank and the countries that have adopted the euro.

Still, the opposition among policymakers in developing countries to dollarization is probably the most robust barrier to such policy changes. Exploring the successful experiments with dollarization in Latin America can help us understand the circumstances under which a developing country might adopt such a policy.

Successful Dollarization in the Real World

To see how a small country can function as a dollarized economy, you don't have to look any farther south than Panama, which adopted the U.S. dollar as the official domestic note in 1904. (Panama does circulate a domestic coin — the “balboa” — but it is fully convertible at a rate of one coin for one U.S. dollar.)

The dollarization of Panama did not occur in a political vacuum. The U.S. government had a specific interest in building a canal there as the 20th century dawned and was encouraging the Panamanian government to declare independence from Colombia. When it did so in 1904 and new independent governmental institutions were established, no central bank was created and the U.S. dollar became the de facto official currency.

The absence of a central bank, however, does not mean there are no options for the private banking system looking for a lender of last resort in an economic tumult. Panamanian banks have established lines of credit with foreign banks that have branches in Panama and can draw on those in a liquidity crunch. In fact, Panama is very well-inte-

Unofficial Dollarization Index: Reported Ratios of Dollar Holdings in Foreign Economies (2003-2004)

Country	
Argentina	68.8
Armenia	45.3
Belarus	58.9
Bolivia	83.5
Bulgaria	55.6
Costa Rica	47.5
Croatia	72.7
Czech	25.9
Estonia	17.4
Hungary	20.6
Kyrgyzstan	41.4
Latvia	48.7
Lithuania	31.5
Mexico	25.8
Nicaragua	76.4
Peru	57.5
Poland	18.0
Romania	36.1
Russia	72.6
Turkey	46.7
Ukraine	44.9
Uruguay	74.1
Venezuela	18.0

SOURCE: Edgar L. Fiege, University of Wisconsin-Madison

grated with international financial markets, particularly after banking laws were liberalized in 1970.

Juan Luis Moreno-Villalaz explained it this way in a 1999 article, authored when he was an advisor to the Ministry of Economy and Finance in Panama: “Panama’s monetary system operates as if it were a competitive macroeconomy, since monetary equilibrium is the result of private-sector decisions without government intervention or distortions.”

Not all dollarization experiments have begun as peacefully as Panama’s. An example of a more recently dollarized economy is Ecuador, which adopted the U.S. dollar as the official currency in 2000.

Ecuador’s economic growth was stagnating in the 1990s because of a heavy government presence in the economy. Policymakers attempted and failed to open the country to international trade and capital markets. Meanwhile, political unrest began to build as the large concentration of business involved in oil exporting took a hit when oil prices fell, taking sections of the economy down with it. A collapse of the banking system followed in the late 1990s around the time that the atmospheric phenomenon El Niño had a devastating impact on production and infrastructure. Runaway inflation, the result of an overly permissive and politicized central bank prior to the crisis, was also a factor.

So, dollarization was adopted as part of the solution, along with the privatization of some state-owned enterprises, and liberalization in labor markets. But it was done in the midst of a political crisis that accompanied the economic downturn. Ecuador had gone through four presidents between 1996 and 1998. When the sitting president, Jamil Mahuad, announced the dollarization policy in January 2000, he was deposed days later. His successor, Vice President Gustavo Noboa, stuck to the policy and by 2003, his last year in office, the inflation rate was 7.9 percent — down from close to 100 percent in 2000 — making it the first year since 1972 to see a single-digit inflation rate.

The Perils of Soft Dollarization

The Ecuador example shows how dollarization can follow massive economic dislocation and political unrest. Yet it also hints at how the form that dollarization takes can affect the outcome. The Ecuadorian government opted for a soft form of dollarization — it retained the central bank and allowed

it to function as a lender of last resort. Today, some observers suggest that the future of dollarization remains uncertain in the face of recent stresses to that country's banking system.

A country that most vividly illustrates the perils of soft dollarization is Argentina. President Carlos Menem came to office in 1989 during a period of economic stagnation. The next year, the inflation rate topped 20,000 percent. Dollarization of the economy began in 1991 and was relatively painless since most citizens preferred dollars anyway, and had large holdings of them. (Dollar notes were estimated to exceed domestic currency notes and bank deposits combined.)

The form that dollarization took here was soft too. The mechanism used was widely called a "currency board." It was tasked with overseeing the convertibility of the currency and offered anyone who wanted to trade in their pesos for dollars a 1-to-1 exchange rate. It was a credible commitment because the board was required to hold dollars in reserve as means to make good on the exchange and was presumably bound by the expectation that they would not embark on a discretionary monetary policy.

This arrangement was in some ways a concession to the sovereignty concern. At the time, pesos were still in circulation and considered legal tender, but the convertibility of them to dollars made the U.S. currency the de facto medium of exchange. Yet it was indeed successful in reducing inflation to single digits by 1993.

But the currency board deviated from the textbook definition. There were some loopholes in the reserve requirements. The Argentina currency board was able to hold a certain percentage of government-issued bonds instead of foreign currency. And the government was quite eager to run up debt in the years after the currency board was created.

International investment in the region slowed after international shocks, like the East Asian and Russian currency crises, and local ones, like the devaluation of the Brazilian currency. A recession resulted, but that alone wasn't enough to threaten the currency board structure. Instead, Argentina's government had trouble paying interest on the

international and internal debt it had racked up over the preceding decades. In addition, skepticism of the government's commitment to convertibility spooked the markets and began a "silent run" on bank deposits.

By this time, the government was led by officials who were known to be less fond of the currency board structure. By the middle of 2001, the government was well on its way to devaluing the peso by violating the convertibility rule. They also announced a separate set of exchange rates for various export transactions. Thus, the currency board ceased to be a rules-based institution that bound the hands of policymakers.

Advocates of hard dollarization argue that Argentina would be in better shape if the discretionary power of the currency board was taken away completely. They arguably have a point: When the Argentine peso faced inflationary pressure from speculators in 1995, the government was able to reduce that pressure by threatening to shift to hard dollarization and to get rid of the peso altogether. By threatening a less discretionary policy, they were able to protect their currency.

Over time the allure of monetary sovereignty and political pressure prevailed. Economist Kurt Schuler, currently with the U.S. Treasury Department, has tallied up the costs to these sorts of political preferences and discovered that they are steep. Between 1971 and 2000, developing countries without central banks had about as much inflation as developed countries with central banks. Presumably the latter learned very important lessons from the period of high inflation in the 1970s. But developing countries with central banks have far less success: Average annual inflation was about 10 times higher in those countries.

Sometimes truth and fiction look disturbingly similar. The story of Dema Gogo provides us with insight on monetary experiments in the developing world. Unfortunately, for many of those countries the fable continues to be closer to reality than myth.

RF



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Principal-Agent Problem

BY KHALID ABDALLA

Imagine a firm hires a new employee. His job includes examining the competing bids from the firm's suppliers and preparing reports on the merits of each. How does the firm know the employee will handle this task dutifully? It may be easier to simply make up facts than to thoroughly research the bids. Or the employee may favor one supplier over another for reasons completely unrelated to the merit of the proposal — because of a family connection, for instance.

This is an example of what economists call the “principal-agent problem.” In this scenario, the employer is the “principal” and the employee is the “agent.” The interests of agents are not perfectly aligned with those of the principals. Yet the principals can only imperfectly monitor the actions of the agents. This means that agents can advance their own interests at the expense of those of the principals.

An employer can respond to the agency problem by increasing the monitoring of employees. This could be achieved through, among other things, enhanced management scrutiny of employee work. But this requires a significant investment of the employer's time and resources.

So economists have long pondered less-costly incentive plans that would align the interests of employees with those of employers. The main way of doing that is to tie employee compensation to the performance of the firm or a specific metric of that firm's success or productivity.

One popular policy among publicly listed firms is the granting of stock options to employees, often upper management. These stock options are a part of an employee's compensation and they rise in value as the firm's stock rises in value. This ties the financial well-being of the stock option recipient directly to that of the firm.

However, stock options can create their own set of perverse incentives. In recent years, some firms have been scandalized by the practice of “backdating.” Firms that offer stock options to employees are required to disclose to the government the date at which the stock option was offered. This is used to determine the fair market value of the option. Listing a date that is earlier than the actual date the option was offered could inflate the value of that form of compensation. Yet, stock options are still widely used by publicly listed firms — indeed, analysis has shown that they are an effective way of overcoming the agency problem and accompany increases in a firm's value — although there is

more care paid to their disclosure procedures today.

The link between an individual employee's effort and the performance of the company's stock can be tenuous. A more direct way to deal with the agency problem is performance-based pay. Year-end bonuses are a common form of this sort of pay system. Another type of performance-based pay is one when workers are paid a “piece rate” in which they are compensated per unit of work. For example, vegetable or fruit pickers might be paid by the number of pounds picked. The piece rate system can work well for jobs or industries where the productivity of a worker can be clearly tied to some unit of final production.

The attempts of firms to ameliorate the agency problem could also have effects beyond the walls of the individual firms themselves. In 1984, economists Carl Shapiro and future Nobel Prize-winning economist Joseph E. Stiglitz constructed a model in which a particular solution to the principal-agent problem could increase unemployment.

In the Shapiro-Stiglitz model, employers pay workers an above-market wage called an “efficiency wage” so as to prevent workers from shirking — that is, slacking off. The cost to an employee of getting fired — the lost wages — would be higher, thereby inducing an employee not to shirk.

Yet, if one firm pays efficiency wages, then all firms will likely face an incentive to pay efficiency wages to compete for workers. This would temporarily remove the incentive to avoid shirking since losing a job at one firm wouldn't necessarily entail a pay cut at an alternative job. However, if all firms pay efficiency wages, then wages will be above the market-clearing level, resulting in involuntary unemployment. This decreases the chances that a fired worker will find a replacement job and encourages the employee not to shirk. So, in the end, efficiency wages serve their goal of mitigating the principal-agent problem but at the cost of bringing about higher unemployment.

There are other proposals to align the incentives of workers with employers. One is the use of “seniority wages,” when workers are initially hired at a rate lower than their marginal productivity, but see their wages rise as they demonstrate their value to a company. The type of arrangement that helps solve the principal-agent problem will be largely determined by a firm's production processes, and thus can vary widely across industries.

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Microbanks: Subsidy Dependent or Self-Sufficient?

BY MATTHEW CONNER

The goal of “microbanks” is to reduce poverty by providing short-term, low-principal loans that serve to increase access to credit which might otherwise be closed to those in the developing world. The literature concerning microlending ranges from unabashed praise to harsh criticism.

Some see the trend as one of the greatest forms of humanitarianism in recent years — Muhammad Yunus, founder of the Grameen Bank of Bangladesh, one of the pioneer microbanking programs, recently received the Nobel Peace Prize. Others see microlending as little more than a glorified welfare program.

Subsidies appear to play a very large role in the sustainability of nearly all microbanks. This is due to the fact that microbanks face two large problems. One, they lend primarily to people who can offer no collateral. Two, they attempt to generate profit while granting relatively small loans.

Even the Grameen Bank of Bangladesh, which has reported profits nearly since its inception, may not be as self-sufficient as once thought. According to economist Jonathan Morduch of New York University, when Grameen's accounts are followed over time, he finds that “categories and expenses are moved around to ensure that Grameen posts a modest profit.”

In addition, he also notes the fact that the subsidy rate (as a percentage of total loan portfolio), while falling over recent years, still rests at approximately 9 percent. In a comprehensive survey of microfinance firms targeting the poorest borrowers, research showed that these banks were generating only enough revenue to cover 70 percent of their full costs.

However, microbanking is a very complex industry with many variations in how each institution lends money and the mechanisms used to encourage repayment. In a recent article, Morduch and economists Robert Cull and Asli Demirgüç-Kunt of the World Bank performed a global analysis of leading microbanks. They split microbanks into three categories depending on lending type: 1) village lending in which there is large-scale joint liability for repayment 2) group lending where the focus is on self-formed groups of borrowers (solidarity groups) that assume joint liability for repayment and 3) individual lending that centers around a more traditional bilateral relationship between bank and customer.

To assess the profitability of these microbanks, the

researchers used a financial self-sufficiency ratio, a measure of a bank's ability to generate enough revenue to cover its costs. The ratio is derived from revenue divided by the sum of adjusted financial expenses, adjusted net losses from loans, and adjusted operating expenses.

Village banking serves the poorest customers, with an average loan size of approximately \$149, but it also reaches a large number of borrowers. The troubled financial positions of the clientele causes the average interest rate of village-based loans to be the highest of the three types studied.

These banking operations also face the highest average

costs, since the small loan amounts generate small incremental payments compared to the operating costs associated with managing such a vast number of outstanding loans. According to the survey, the average return on assets for village-based lending was negative.

The banks that employ the group lending technique follow the same guidelines as the village

banks but on a smaller scale. Group banks have an average loan amount of \$430.98 and also charge slightly lower interest rates, given that their clients are financially better off and are more likely to fully repay loans. Operating costs are also lower than village-based lending because of the larger loan amounts and smaller outreach, but these banks also show a negative return on assets.

Individual-based lenders are the only group that reported profit not enhanced by subsidies and grants, but they also exhibited the lowest amount of outreach. The average loan amount for these banking operations is approximately \$1,220, which reduces average costs and allows for a slightly positive return on assets.

Working with customers who can handle such large loans and are obviously not the “poorest of the poor” seems to veer from the primary targets of microbanking. There appears to be a viable trade-off between profits and outreach, with the more profitable banks possibly experiencing what the authors refer to as “mission drift,” or a shift toward prioritizing revenue over the reduction of poverty.

This situation presents a conundrum. It seems that the surest way to be a successful microbank is to act more like a traditional bank. The authors note that there are “examples of institutions that have managed to achieve profitability together with notable outreach to the poor — achieving the ultimate promise of microfinance. But they are, so far, the exceptions.”

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“Financial Performance and Outreach:
A Global Analysis of Leading
Microbanks” by Robert Cull, Asli
Demirgüç-Kunt, and Jonathan Morduch.
Economic Journal, February 2007,
vol. 117, pp. 107-133.

Bidding Begins for Maryland “Racinos”

BY BETTY JOYCE NASH

Maryland voters have decided to go ahead and take a chance. In the fall of 2008, they approved an amendment allowing slot machines. Up to 15,000 video lottery machines at five locations could bring \$660 million annually for the first eight years to the state education trust fund (48.5 percent of gross revenue) when fully implemented by 2013. The amendment’s supporters billed the slots revenue as a way to invest in education and also perk up the state’s foundering horse industry.

But revenue projections vary. To collect the estimated net \$660 million, the state must capture all the money Marylanders now spend at slot machines in neighboring states, plus generate dollars from new gambling at a rate of 150 percent above current levels, according to an analysis by the Maryland Institute for Policy Analysis and Research.

Maryland will get about \$90 million, earmarked for education, just from the sale of licenses to slot operators as early as 2010, with about \$150 million coming in the following year. “It’s going to cost you to bid for one of these licenses,” says Michael Hopkins, executive director of the Maryland Racing Commission. Bids are due Feb. 1, 2009. Magna Entertainment Corp., the biggest racetrack owner in North America and parent of the Maryland Jockey Club, plans to bid for machines at its property Laurel Park, home of the Pimlico Race Course and the Preakness Stakes. But not all machines will be installed at tracks — there will be a slots operation in downtown Baltimore and one at Rocky Gap State Park in Allegany County in the state’s western panhandle.

The money may help the state budget deficit. It won’t be a long-term solution to fiscal problems, though. Even gambling states like Nevada are currently in fiscal distress.

The statewide referendum amended the constitution to allow slots, and any expansion of gambling will require another amendment. In addition to wagering at horse tracks, there are currently three off-track betting locations in Maryland. Slot machines will be installed in five geographically dispersed locations. Previously the law allowed only nonprofits to operate slot machines. Some of these can be found on the Eastern Shore in the halls of charitable veterans’ organizations.

Laurel Park is on track for 4,750 machines in Anne Arundel County within two miles of Route 295. Ocean Downs in Worcester County may get 2,500. (Some Ocean City businesses weren’t too happy about that — they’re worried people will spend money on slots rather than T-shirts and restaurants.) Other sites include the 3,750 machines in Baltimore City, Cecil County with 2,500 machines within two miles of Interstate 95, and 1,500

machines in Allegany County.

Maryland’s horse industry wanted slot machines because slots gambling in West Virginia, Delaware, and Pennsylvania helps fund larger purses and that means more and better quality horses compete at those tracks. That attracts racers and breeders away from Maryland.

Racing days in Maryland have fallen from 306 days 15 years ago to 185 days in 2007, according to an August 2007 report by the Maryland Department of Labor, Licensing and Regulation. The horse racing industry nationwide is in decline because of growing competition for dollars from other entertainment.

Of gross slots revenue, no more than 33 percent is slated for the operators, 7 percent will enhance race purses and provide funds for the breeding industry (up to \$100 million annually), and 5.5 percent will go to localities to defray costs (such as increased police presence) associated with the slot machines.

There will also be 1.5 percent for small, minority, and women-owned business investment accounts, 2 percent to the state lottery for administrative costs, and another 2.5 percent for racetrack renewal. The rest is promised to education. A “problem gambling fund” will also receive \$6.4 million annually. The money will, in part, pay for a study to assess the level of pathological gambling in the state.

The horse industry occupies a special niche in Maryland, but represents only 0.4 percent of the state’s \$250 billion overall economic activity, according to economist Robert Carpenter of the University of Maryland, Baltimore County and the Baltimore office of the Federal Reserve Bank of Richmond.

Earmarks from slots for purses and breeders and racetracks amount to an industry subsidy, say some critics. “Saving a dying industry just doesn’t make sense,” says Donald Norris, chair of the department of public policy at the University of Maryland, Baltimore County. Slot machines may also compete with existing forms of state-sanctioned gambling and potentially lower revenue in other ways.

While slots money should not directly affect the state’s general fund — they are transfers between gamblers and earmarked funds, such as the education trust fund — lottery sales are expected to decline by 10 percent with slots competition, according to Norris. Some people also will substitute slot play for shopping, lowering tax revenue for this source.

Norris explains that the social costs of the new slot machines could reach \$228 million annually. Those include increases in crime, bankruptcy, cost related to gambling addiction, divorce, among others. **RF**

Lending During the Volcker Disinflation

BY MATTHEW CONNER

“The Effect of Monetary Tightening on Local Banks.” Rocco Huang. Federal Reserve Bank of Philadelphia Working Paper 08-20, September 2008.

Beginning in 1979, the Federal Reserve under Paul Volcker instituted an anti-inflationary policy that focused on a drastic tightening of the money supply. At the time, the banking system in the United States was fragmented geographically due to restrictions on local banks that prohibited them from opening branches across county lines. Bank holding companies, however, were able to have subsidiaries in numerous counties. In theory, this should have made them more resilient in the face of monetary tightening because they could move capital between regions with differing demand for loans.

This paper presents new empirical evidence that suggests Fed policy did, in fact, affect isolated local banks more intensely than banks with operations spread across county lines. The study covers the period between 1977 and 1986, a time frame that includes tight as well as expansionary monetary policy stances by the Fed. The results of the analysis were consistent with theory: “Other things being equal, local banks’ loan supply exhibits stronger sensitivity to monetary policy, compared with that of nonlocal banks.” In a contractionary environment, the lending of local banks grew much more slowly relative to bank holding companies with branches than they did under an expansionary policy.

Huang reports that this historical experience suggests that the banking sector’s increasing consolidation and multicounty nature, accompanied by a decline in market share of local banks, might have contributed to the stability in the financial sector and could, therefore, help the Fed to better focus on price stability.

“Can Smart Cards Reduce Payments Fraud and Identity Theft?” Richard J. Sullivan. Federal Reserve Bank of Kansas City *Economic Review*, Third Quarter, 2008, pp. 35-62.

With the advent of electronic monetary transactions, the potential for identity theft and payment fraud has increased. Payments can sometimes be authorized by asking the purchaser to verify personal information such as an address or a phone number. But this presents an obvious flaw as this information can be obtained by a criminal who can then impersonate the cardholder.

Sullivan describes a safer alternative to these payment systems: “smart cards” that use less personal information for purchase verification and don’t require a magnetic strip. Smart cards require a user to provide a personal

identification number (PIN) but they also contain a computer chip that stores a digital signature. After the customer enters the PIN, the terminal in which the card has been scanned can verify it against the encrypted information on the card.

This sort of smart card has not been deployed in the United States and Sullivan offers a possible explanation as to why. In his view, offering differing security standards can be seen by vendors as a way to gain advantage over their competitors. This could reduce the willingness of these parties to participate in developing a consistent industry-wide security standard. “Even if the societal benefits justify their cost, payment smart cards with strong authorization security may be adopted slowly,” Sullivan concludes.

“How Economic News Moves Markets.” Leonardo Bartolini, Linda Goldberg, and Adam Sacarny. Federal Reserve Bank of New York *Current Issues in Economics and Finance*, August 2008, vol. 14, no. 6.

Economic data releases from the U.S. government and private agencies can have effects on the movements of the financial markets. The intensity of the response to these reports, however, seems to vary. The authors of this study compared the reactions of the markets to the release of 13 scheduled announcements of data from government and private sources between 1998 and 2007. Their focus is on the occasions that actually produce “news,” which is defined by the authors as “the surprise element, or the difference between the actual value announced for an indicator and market participants’ prior expectations of what that value would be.”

The results show that two government releases — the nonfarm payrolls and advance Gross Domestic Product reports — and the Institute for Supply Management’s “Manufacturing Report on Business” tend to affect prices of bond yields, equity prices, and exchange rates in significant and systematic ways. All other releases studied tended to generate erratic or insignificant effects.

The most significant effect tends to be on bond yields. According to the authors’ regression results, a 1 percent surprise increase in nonfarm payrolls, for instance, raises the yield on two-year Treasuries by 78 basis points on average. The yield on 10-year Treasuries sees an average basis point increase of closer to 60 basis points. The authors conclude that the observations in the data set confirm the intuition that markets react to surprise news of stronger economic growth in a way consistent with an expectation that stronger growth implies higher potential inflation in the future. **RF**

DOCTORS ON THE SUPPLY SIDE

Virginia Adds Fourth Med School

A new medical school is under construction in Roanoke. The school is expected to add jobs, spill economic benefits over into the city's growing health sciences cluster, and alleviate doctor shortages in the rural southwest corner of the state. Nationwide, about 10 new med schools are in the planning or construction stage, along with expansions.

The effort is designed to ease a looming national doctor shortfall predicted by the Association of American Medical Colleges (AAMC). That's a change from the late 1990s when the AAMC's analysts predicted a national surplus of 145,000 doctors. Newer information indicates that retiring doctors and a growing population mean there will be too-few doctors even if medical schools increase enrollment by the stated goal of 30 percent over 2002 levels by 2015.

While there's no guarantee that new doctors will fan out over rural Virginia, "where you educate and train has a major impact on where you practice," says Edward Salsberg, director of the AAMC's Center for Workforce Studies. Of Virginia's 18,510 active physicians, 23 percent completed medical studies in the state, according to the AAMC's 2007 State Physician Workforce Data Book. Virginia ranks 30th among the 50 states in the percentage of doctors who practice in the same state where they studied.

The new medical school will help, says Dr. Cynda Johnson, dean of the new Virginia Tech Carilion School of Medicine. Affiliated with the for-profit health care firm Carilion, the school will be private. Carilion has trained resident physicians for 25 years. Over the years, about 170 graduates of its Family Medicine program have stayed in Southwest Virginia, she says. "They often choose to stay if they have a good experience."

Virginia Polytechnic Institute and State University is also a partner in the venture. Virginia Tech will own the building, for which the state has agreed to pay \$59 million. The first class of 42 students will arrive in 2010.

Even with the AAMC goal of increasing med school enrollment, there's likely to be a shortage. "Demand will far outstrip supply even with our recommended increase," Salsberg says. "We have to look at a redesign of services with nonphysician clinicians, redesigning and improving delivery. Increasing supply is not the solution; it's only part of the solution."

Despite the push for more doctors, simply increasing supply may not improve care, according to authors of the *Dartmouth Atlas of Health Care 2008*. Supplies of medical services (specialists, equipment, or the number of hospital beds, for instance) influence how often they are used, according to the Dartmouth report, but "higher spending and

greater use of supply-sensitive care is not associated with better care."

Researchers counted doctors who had cared for Medicare recipients with chronic diseases over their final two years of life. For example, patients at the University of California at Los Angeles medical center had more than twice the physician visits that patients at the Mayo Clinic did, but earned no better marks on established quality measures. The report concludes that the variation is grounded in the "assumption among both physicians and patients that more medical care means better care; the marked variations in supply that emerge in an unplanned marketplace; and a fee-for-service payment system that rewards providers for staying busy."

However, access to services is associated with better outcomes, according to Salsberg, and increased supply will provide greater access.

Virginia now has four medical schools. The University of Virginia School of Medicine in Charlottesville and Virginia Commonwealth University's Medical College of Virginia in Richmond are public. Eastern Virginia Medical School in Norfolk is a public-private venture, while the Virginia College of Osteopathic Medicine, located in Blacksburg, is private.

— BETTY JOYCE NASH

MONSOON SEASON

State and Local Governments Curtail Spending

Myrtle Beach, S.C., has delayed a boardwalk project and a plan to add a performing arts center to its convention hall. "We do not see it meeting the same time lines envisioned 6 to 12 months ago," says Myrtle Beach City Manager Tom Leath, referring to the project. Blame uncertainty in the bond markets.

Forty-three state governments, including all Fifth District states except West Virginia, are coping with economic turmoil that has reduced personal income and consumption tax revenues. Those declines are hurting local governments nationwide because of declining property values and taxes, with the fallout extending to school budgets. For instance, in Chesterfield County, Va., school officials need to cut more than \$38 million from the FY 2009-2010 budget of about \$603 million.

And it's only the beginning, says Scott Pattison, executive director of the National Association of State Budget Officers (NASBO).

At press time, Maryland, North Carolina, and Virginia were projecting fiscal 2010 budget gaps of \$1.3 billion, \$2.7 billion, and \$1.8 billion, respectively. That budget year begins in July 2009.

"I think you'll see more significant cuts in the next year or

two,” Pattison says. By law, most states can’t run deficits, so states raise taxes, cut expenses, or use reserve rainy day funds to balance budgets.

Virginia Gov. Tim Kaine proposed a 30-cent cigarette tax hike, likely to cause a stir because the home turf of Philip Morris’ parent company, Altria, is Richmond. He’s also proposed education and Medicaid cuts. Kaine’s proposal would cut the Virginia Department of Transportation’s work force by about 1,000.

All that and no raises, for those who keep their jobs. The governor’s proposal also includes cuts of 15 percent in next year’s projected budget totals, except for community colleges (10 percent) and public safety agencies (7 percent). And for the second year in a row, the state may dip into its rainy day fund to the tune of \$490 million, the biggest withdrawal in history, if approved.

But West Virginia is all “green grass and high tides” right now, according to budget director Mike McKown. Coal and natural gas severance tax revenue has driven collections through November of 2008 to \$72 million ahead of estimates. He doesn’t expect the surplus to last, however, and plans a conservative estimate for FY 2010. For now, though, there are no hiring freezes, job or budget cuts.

North Carolina faces a nearly 6 percent shortfall (\$1.2 billion) in the current fiscal year, with most agencies being forced to cut spending by 5 percent. Gov. Mike Easley also wants agencies to submit plans for 3 percent, 5 percent, and 7 percent cuts for the coming years because of revenue uncertainty. South Carolina has cut its budget by more than \$1 billion since lawmakers approved the budget in June. Revenue projections fell by more than 11 percent.

Pattison expects personal income tax collections to “tough” in 2009. “It’s hard to predict refunds,” he says. States, at least, have no credit problems for now, but are paying higher interest rates on bond issues. And, even though retail investment remains strong in the bond market, institutional investment has not. “People are concerned that institutions won’t get in on purchasing bonds soon enough,” he notes. And that will affect future bond issues.

— MATTHEW CONNER AND BETTY JOYCE NASH

OPEN FOR BUSINESS

Taxpayers Subsidize Firm’s Expansion in Virginia

Continental AG will close its manufacturing facility in South Carolina, and take its 318 jobs to its gasoline injector plant in Newport News, Va.

The announcement comes at an uncertain time for the future of the Big Three U.S. automakers. Yet even more uncertain is the fate of many suppliers to the car makers, particularly in the wake of a bruising year for car sales by American manufacturers. A Continental spokeswoman in Michigan, Michele Tinson, notes the move was mainly a consideration of the new realities in the auto industry. The

expansion in Newport News will put the firm under one roof, eliminate redundancies, and help the firm leverage expertise to cut manufacturing costs, according to a Continental press release.

The German-based company’s decision is part of a larger consolidation and cost-cutting trend occurring in the auto industry worldwide. “There’s going to be a big restructuring because of the trouble that the auto firms are undergoing,” says Doug Woodward, professor of economics at the Moore School of Business at the University of South Carolina. “And it’s not just the domestics. Foreign plants are revamping. The BMW plant located in Spartanburg is expanding still, but they are laying off workers. Michelin is still here, but these are tough times for them.” South Carolina’s unemployment rate is the third-highest in the nation, 8.4 percent in November 2008.

When Virginia Gov. Tim Kaine announced the move, he noted the state will give the firm \$3 million in relocation assistance. Two \$1.5 million “performance grants” will go Continental’s way after the firm closes up shop in South Carolina. The city of Newport News offered \$3.5 million in tax rebates. As is often the case in corporate relocations, economic development agencies of both states vied for the jobs. The competition between Virginia and South Carolina “was very close,” according to Florence Kingston, director of development for Newport News.

But it’s possible that the subsidies were unnecessary, according to a study that surveyed foreign-owned firms published in a 2004 issue of the *Journal of World Business*. The journal queried 26 foreign-owned firms that set up shop in North Carolina. The answers the executives gave to questions about location decisions suggest there are far more important considerations than taxpayer-funded handouts.

Most foreign-owned companies in North Carolina see government incentives as a minor factor in their location decisions, according to Dennis A. Rondinelli, Glaxo distinguished professor of management at the University of North Carolina-Chapel Hill’s Kenan-Flagler Business School and co-author of the study. In news accounts, he has said that executives have consistently emphasized that the primary criteria are locational assets: good transportation access, skilled labor force, quality of life, good education and training facilities, and ability to train work force for their industry.

Meanwhile, Newport News experienced what might be called an investment boom this year. Canon Inc. announced in May its intent to build a new \$625 million facility and initiate a \$20 million expansion of its Gloucester recycling plant. At least 1,000 new jobs are expected over the next five years. In October, Northrop Grumman teamed up with French firm AREVA to announce a joint venture that will build reactor parts at an area factory. Each venture was promised over \$20 million in a variety of grants and tax abatements by state and local governments.

— BETTY JOYCE NASH AND STEPHEN SLIVINSKI



The economic consequences of subsidizing homeownership

BY STEPHEN SLIVINSKI

Ask most people in America today whether buying a home is better than renting one, and you'll likely get a response that equates renting with stuffing money down a garbage disposal. The idea of homeownership today is not one that simply evokes the comfort or pride of living in a place of one's own. Instead, it's become part of a common investment philosophy.

But if you ask Edmund Phelps, the Nobel Prize-winning economist from Columbia University, he'll proudly declare that he doesn't own a home. And to him, that's not a bad thing. "It used to be that the business of America was business," said Phelps in August 2008 to Bloomberg News. "Now the business of America is homeownership." In fact, many economists will tell you that the American love affair with homeownership has some consequences that you won't normally hear discussed.

Yet, despite the warning of some experts, the federal government continues to play a role as matchmaker in this affair. Policymakers have been promoting homeownership as a goal for most Americans since the Great Depression. Even in the late 20th century, when the number of American homeowners was at historic highs already, the policy initiatives continued to expand. In 1995, when the homeownership rate as measured by the U.S. Census

Bureau was about 65 percent, President Bill Clinton made it an explicit goal of his administration to boost it to 67.5 percent by the year 2000. So he enlisted his secretary of housing and urban development, Henry Cisneros, to spearhead a "National Homeownership Strategy." The policies that resulted encouraged a loosening of lending standards.

The race to encourage homeownership is a bipartisan one. President George W. Bush, while not committing himself to a specific number, proposed raising the homeownership rate for minority families through a government-led "Homeownership Challenge." The goal was to lower "barriers" to homeownership by using federal money to help low-income families make their downpayments and encourage "below-market-rate" investments.

For most of the country's history, however, the odds were that you did not own the home you lived in unless you were a farmer. Nor is it clear that owning a home is in the best interest of some who hold a mortgage today.

The homeownership rate is about 68 percent now. Perhaps the best policy question is no longer why the homeownership rate in the United States is so low. A question that economists might ponder instead is: Why should we want the homeownership rate to be so high?

The Suburbanization of America

To understand how the ranks of homeowners grew, we need to understand the spread of homeownership in 20th century America. It is largely a tale of how the urban and economic landscape changed and the rise of suburbanization.

The suburbs began to crop up in the 1890s, around the same time that streetcars became a viable way for people to commute between the outer edge of metropolitan areas and the city center. Through the turn of the century and into the 1920s, the outer fringes of the city became a high-population growth area. Yet even in those days owning a home was still largely a rural phenomenon. The nonfarm homeownership rate in 1920 was 41 percent, but the homeownership, rate of farmers was 58 percent.

The Great Depression didn't alter metropolitan settlement trends in any fundamental way, although it did reduce the number of people who owned homes. But after World War II, the rush to the suburbs and, consequently, the upward shift in homeownership, was dramatic. Whereas it took about 40 years after the turn of the 20th century for the overall homeownership rate to crawl upward by 2 percentage points, it took only the 20 years between 1930 to 1950 for the rate to jump 7 percentage points, from 48 percent to 55 percent.

Harvard University economist Edward Glaeser suggests this illustrates what is now practically an Iron Law of housing economics: People who live in urban areas are usually renters, and those who live in suburbs are usually owners. "If you're trying to explain the differences in homeownership between cities in the United States, the physical structure of the homes is the overwhelming variable," says Glaeser. Or, to put it another way, the people who live in detached single-family homes tend to own them — and most of those sorts of housing units are concentrated in suburban areas.

Homeownership rates in the Fifth District illustrate the same general trend. Since the 1950s, the ownership rate in an urban area like Washington, D.C., has been substantially lower than the national average. Meanwhile, other states in the Fifth District tended to have a higher-than-average homeownership level. The 1950s housing boom spurred a very dramatic rise in South Carolina particularly. And the fact that the most rural state in the District — West Virginia — also has the highest homeownership rate fits the pattern.

A subplot in the suburbanization tale is the growth of mortgage lending. In the decades prior to the Great Depression, mortgage lending to home buyers wasn't a booming industry. In 1910, only a third of the nonfarm owner-occupied home purchases were mortgaged. Those mortgages that did exist originated with local savings and loan institutions which mainly did business in their immediate geographic area.

The homeownership boom of the post-war years was preceded by specific public policies geared toward making the market for housing credit national in scope. President

Franklin Roosevelt's New Deal legislation in the 1930s insured mortgages through the Federal Housing Administration (FHA) which allowed savings and loans to take on a little more mortgage risk in their lending portfolios. The Federal Home Loan Bank system provided short-term credit with subsidized interest rates to mortgage lending institutions. The creation of the Federal National Mortgage Association — known today as Fannie Mae — allowed lenders to sell their mortgages to the federal government and instantly replenish their capital which could be in turn loaned to someone else.

By the 1960s, suburbanization and the policies that accompanied its growth had changed American politics and culture. Many presidential speeches since then have included some kind of nod to the perceived importance of owning a home and have been often accompanied by a variety of new policies. By the late 20th century, owning a home was equated in the popular imagination as an important life goal.

Today, the consequences of these trends are not something most people would like to ponder over their burgers at a suburban backyard cookout. But the consensus among economists now is that the policies geared to encouraging people to own homes have had very real economic costs.

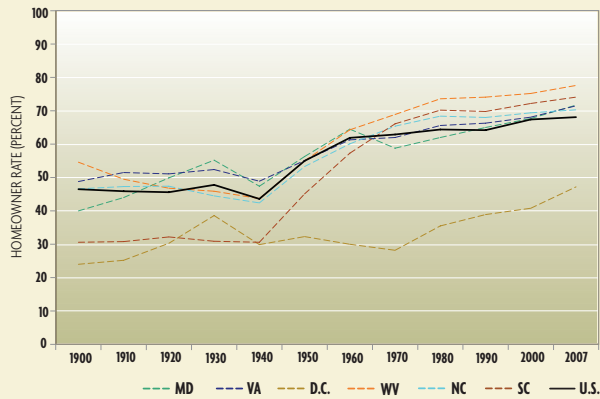
Subsidizing the Homeowner

The favoritism showered upon home purchases by the government for at least the past 60 years has, in the aggregate, made it cheaper for people to borrow to invest in homes rather than other items. Thus, it should be no surprise that people will spend more time and money pursuing homeownership — and that's what has economists concerned. "There probably are effects on the homeownership rate that come from the fact that, on average, it's less expensive to be a homeowner than it would be in the absence of current policies," says economist James Poterba of the Massachusetts Institute of Technology, the current head of the National Bureau of Economic Research.

A major element in the subsidization of homeownership is the ability of mortgage holders to write off their interest payments when they file their income taxes. This isn't a new policy or one originally aimed at mortgage holders. The deductibility of interest was, until 1986, a key feature of the income tax since its inception in 1913 — anyone who had to make interest payments on any sort of debt was able to deduct these expenses. Although it may have been an accidental subsidy of sorts it had real consequences. Economists Harvey Rosen of Princeton University and Kenneth Rosen of the University of California-Berkeley conclude that about one-quarter of the growth in the proportion of homeowners between World War II and 1980 was driven by this favorable tax treatment of mortgages.

Some economists quibble with this analysis. New research by Glaeser suggests that the decision to buy or rent may not really be influenced by the deduction. His study, co-authored with Harvard colleague Jesse Shapiro, suggests

The Post-War Homeownership Boom



SOURCE: U.S. Census Bureau

that the families who might be on the fence about buying a house are the least likely to take advantage of the deduction. “The bulk of the benefits,” says Glaeser, “go to fairly rich people who aren’t particularly close to the margin between owning and not owning. These are people who are overwhelmingly in single-family detached houses, and they would be likely to own that house with or without the home mortgage interest deduction.”

But that doesn’t mean that he thinks the subsidy is inconsequential. Instead, Glaeser says the deduction encourages people who were already planning to buy a home to add more things to their housing purchase wish-list. “It mainly serves to induce prosperous people to buy bigger homes and pay more for those homes,” suggests Glaeser.

Other government subsidies are less obvious, but they also have the effect of actively steering more investment capital toward the housing market. Government loan guarantees through the FHA can generally lower the cost of having a mortgage — after all, if a banker knows the government will pay him back if a loan goes sour, he’ll be less worried about the risks of lending and can charge a safe borrower a lower-risk premium (i.e., interest rate) or expand his lending portfolio to include higher-risk borrowers.

Then there are the benefits bestowed by the federal government for decades upon the government-sponsored enterprises (GSEs) Fannie Mae and the Federal Home Loan Mortgage Corporation, known more commonly as Freddie Mac. These include explicit benefits (like certain exemptions from the securities exchange laws that bind ordinary banks) and implicit ones (like the widely expected claim that the institutions had a credit lifeline financed by the U.S. Treasury — a perception that was reinforced when Fannie Mae and Freddie Mac were placed under conservatorship by the federal government in September). The ability of these GSEs to buy mortgages from banks and turn them into tradable securities also creates an incentive for banks to issue more mortgages. The Congressional Budget Office estimates that the combination of these subsidies has resulted in mortgage interest rates for borrowers that were up to a quarter percentage point lower relative to what they would have been otherwise.

The Downsides of Widespread Homeownership

Whether subsidies to homeowners encourage more home purchases or instead simply lead people to buy bigger houses may not matter much. What really matters is that both result in similar economic effects. As Poterba explains: “The general pattern has been that we have invested more in housing relative to other kinds of capital goods than we would in an economy in which the tax system and credit institutions did not tilt the playing field at all.” Simply put, Americans may have overinvested in housing.

This has been a worry of economists for a while. It’s a concern based on what they see when they compare the rates of return — profit per dollar invested — for a variety of capital types. Most studies look at two broad categories: housing capital and nonhousing fixed capital. The latter consists of investments in manufacturing plants, machinery, and other sorts of investments that produce goods. Economic theory suggests that the rates of return for each form of capital should equalize over time. That’s because market forces would, all things being equal, allocate capital in such a way as to deplete the profit potential in this fixed set of investment options.

For instance, if an investor in one sector saw a higher rate of return elsewhere he would move his money into that other sector. But if enough people followed suit, the profits in the newly popular sector would drop. (Imagine a suburban strip mall with eight ice cream stores. You can see how difficult it would be for each of them to make the profit that they would if they were the only ice cream store in town.) As the investment flows away from the old sector, however, the rates of return there will rise again. At some point — what economists call “equilibrium” — the rates of return for both categories of capital would be the same.

But there is another element of housing that is unique: Buying a home is an investment made by people in a structure and in a community where they live. Perhaps there are other unmeasured benefits of housing investment above and beyond the simple rate of return. Some economists have suggested that housing investment creates a positive benefit (or “externality”) for the people who live in a community composed predominantly of homeowners. Renters, as the logic goes, don’t have much long-term interest in the property they inhabit. Homeowners, on the other hand, want the neighborhoods they live in to look good so you would expect them to pay more attention to how nice their property looks.

Some economists, like Ed Glaeser, have found that the main positive externality of home investment is the number of well-tended gardens in communities with a larger number of owners. This benefit could be expected to increase the aesthetic value of the community and could increase the attractiveness of the community to potential residents.

The most comprehensive studies — such as a 1998 paper published by the Federal Reserve Bank of Dallas — seek to include a measure of these sorts of externalities in their rate of return calculations. Yet, even then the conclusions

suggest that Americans have overinvested in housing, relative to other nonhousing capital investment, since at least 1929.

“When you observe that the measurable rates of return are different across the sectors,” said the Dallas Fed study author, Lori Taylor of Texas A&M University, “you either have to conclude that there are substantial unmeasured returns across the sectors or you have to conclude that society would be better off with a reallocation of resources.” These unmeasured benefits would have to be very large — at least \$3,600 per homeowner in America — for the investment imbalance to be explained. And even if you assume that the positive externalities are this large, there may be vastly better ways for the government to encourage the good behavior.

If the goal is for better-looking communities, why subsidize the purchase of the home? asks Glaeser. Instead, why not target the real cause of the community beautification? “You can target that,” he says, “with a limited gardening subsidy, for instance. Give people who plant a garden a subsidy to buy mulch and leave it at that.”

Instead, the current policies produce an economy in which housing investment is generally higher than it would be if government didn’t favor it. And every dollar that is invested in housing stock is a dollar not invested in a more productive use elsewhere. That results in a net reduction in overall economic efficiency.

Nor is it clear that using a home purchase as a primary vehicle for a family’s investment is sound financial advice. Robert Shiller, an economist at Yale University and an expert on national housing markets, has estimated that “from 1890 through 1990, the return on residential real estate was just about zero after inflation.” Throw in the costs of maintenance of the property and it’s easy to see how renting could certainly be cheaper than owning, even if you include the tax advantages. Yet the opportunity cost of those home investments — the foregone investment opportunities elsewhere — go largely unseen.

The costs of owning a home go beyond the financial commitments too. Being tied down to a house tends to make people less likely to leave an area in which employment prospects are deteriorating. After all, terminating a lease is much less costly and time-consuming than foreclosing on a

house or selling a home, even if the owner breaks even on the transaction. Economists predict this would lead to a decline in “labor mobility,” the ability for people to move to where the jobs are.

A seminal study by British economist Andrew Oswald of the University of Warwick traced the link between unemployment and homeownership. Oswald looked at the United States, the United Kingdom, France, Italy, and Sweden between 1960 and 1996 and discovered that, on average, a 10 percentage point increase in homeownership tended to correlate with a 2 percentage point increase in the unemployment rate.

Recent studies of European data discover that you don’t see these sorts of correlations in areas with higher concentrations of renters. Renters are simply more able and willing to move away when their community hits the economic skids. In addition, workers who aren’t likely to move from a specific location might create frictions in the markets for labor skills. It’s a cost to the economy when people live in an area in which their skills are no longer valued. But there is a potential personal cost too: The overall welfare of that worker may suffer.

Homeownership also tends to contribute to adverse political incentives. Incumbent homeowners have an interest in keeping their property values high and have been shown statistically to have a bias in favor of land-use regulations. These restrictions limit the number of houses that can be built in any geographic area and, consequently, keep housing inventory low and property values artificially inflated.

None of this means that economists think the United States should become a nation of renters. Nor is it likely that would happen anyway. Getting rid of the government subsidies to home purchases probably wouldn’t dent the homeownership rate much as long as people continue to prefer living in the suburbs (albeit in slightly smaller homes) and the United States remains a wealthy country. Instead, the take-home message for policymakers, as Glaeser suggests, is that they should not aim to “increase homeownership at all costs.” Unfortunately, it may have taken major adversity in the financial and housing markets for this alternative storyline to be considered seriously. **RF**

READINGS

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Up in the Air

Carbon Policies Weigh Environmental and Economic Risks

BY BETTY JOYCE NASH

Carbon controls are on the congressional drawing board for political, economic, scientific, and public opinion reasons. The Intergovernmental Panel on Climate Change's 2007 report turned some heads with its findings, key congressional committees have seized the issue, and public interest is growing after a dramatic 2005 storm season and volatile oil prices. Last, but not least, the Supreme Court ruled that the Environmental Protection Agency can regulate greenhouse gases under the Clean Air Act.

But by how much, how soon, and at what cost? It's easier said than done. Emissions targets may or may not ensure appropriate atmospheric concentrations or sufficiently limit long-term damage because climate response is loaded with uncertainty. Hypothetical scenarios would either stabilize emissions at 2008 levels by 2050 or cut them to half of 1990 levels by that time, at a cost that ranges from below 0.5 percent to 1 percent annually of gross domestic product.

Solutions hinge on the idea that all people and businesses need an incentive, a price on energy-intensive goods, says Ian Parry, an economist at Resources for the Future. "Whereas any other policy, one that's just focused on the power or transportation sector, won't exploit all the opportunities for emissions reductions and is therefore more costly."

That could be accomplished through a per-ton tax on carbon or emissions limits (a cap) coupled with "emissions allowances" that participants may buy, sell, or trade among themselves. Risks abound with each policy: It's risky to do nothing, a tax risks uneven environmental outcomes because it doesn't limit emissions, and "cap-and-trade" plans can cause firms to face uncertainty because the price of carbon would fluctuate according to the market.

While experts and policymakers weigh alternatives, at least economic incentives have influenced the big ideas on the table this go around.

States Cut Carbs

Cap-and-trade policies already have a track record in cleaning up pollution. Best remembered is the ongoing U.S. acid rain program, which has reduced sulfur dioxide (SO₂) emissions 22 percent below mandated levels at a cost of about \$1 billion a year, well under estimates of an annual \$3 billion to \$25 billion. The ongoing nitrous oxide (NO_x) trading plan covers 19 states, the District of Columbia, and portions of two other states.

A group of 10 states from Maryland to Maine auctioned in September the first set (about 12.6 million) of carbon

allowances in advance of a 2009 annual cap on power plant emissions. Known as the Regional Greenhouse Gas Initiative, (RGGI) the plan limits carbon emissions at 188 million tons until 2015, when the cap will be reduced by 2.5 percent per year until 2019. The first RGGI allowances sold for \$3.07 apiece at auction in September. Its second auction was in December.

Latest data — 2006 emissions of 164.5 million tons during a mild winter — suggest it may be a piece of cake for some utilities to meet this goal. The initiative, which Maryland joined in 2007, covers 233 coal, oil, and gas-fired power plants located in the RGGI region. That includes Dominion, based in Richmond, Va., the biggest power producer in New England. (Dominion participated in the auction, but spokesman Jim Norvelle says they prefer a national cap-and-trade plan over regional approaches.)

Critics have faulted the RGGI cap for not being aggressive enough. However, greenhouse gas buildup is a long-term problem, and allowances can be adjusted if necessary.

You have to start somewhere, according to Matthias Ruth, director of the Center for Integrative Environmental Research at the University of Maryland. He's studied effects of climate change on Maryland, Boston, and New Zealand, too. "It's so new everyone was worried," he says. "The last thing you want to do is have an overly ambitious and un-doable target."

As to the distribution of allowances, RGGI's plan requires at least a quarter be auctioned; most states, including Maryland, plan to auction 100 percent. In a cap-and-trade program, an auction reveals emissions prices through bidding and can raise money that could offset less efficient taxes such as those on capital or payrolls.

In most cap-and-trade programs, allowances have been given away, except in 2004 and 2005 when Virginia auctioned nitrogen allowances, and netted \$10.5 million. The RGGI auction raised \$38.6 million, some of which will pay for energy conservation and alternatives. That may not be the most efficient use of the money, Parry notes, because "the government is picking winners, saying this is a better way to reduce emissions; we know better than the market." It would be more equitable and efficient if the money were used to, say, lower personal income taxes in those states.

The RGGI states might be the first, but may not be the last to cap greenhouse gas emissions and trade allowances regionally in the absence of a national plan. Seven Western states, including California, plus four Canadian provinces have formed the Western States Initiative, which will create a regional cap-and-trade system similar to RGGI's.

Six Midwestern states and Florida also are studying variations on the RGGI theme. California in 2006 passed a law to return that state to 1990 emissions levels by 2020, a 25 percent cutback. Proposals to achieve that are in flux and include a light rail system, alternative energy incentives, and more.

These regional blueprints turn pollution allowances into a marketable asset. Participants meet emissions targets any way they can — with pollution-control technologies or by spending allowances — rather than using methods prescribed by government. The quantity is fixed and the price is determined by the market. To limit swings in the market, a price ceiling or floor could reduce price uncertainty — RGGI's floor was set at \$1.86 per allowance. The hope is that such tweaks will become unnecessary over time in a smooth trading market.

Economist Richard Newell of Duke University says such flexibility will “achieve some degree of cost containment while at the same time providing some certainty about emissions reductions.” Another tweak would be to inject more allowances into the system if costs get too high, he notes.

An allowance reserve would create a stash that could be released when and if prices rose above a certain level. Newell thinks it's worth exploring these options to create a flexible “hybrid” plan.

Participants also could be allowed to bank permits for the future and to use those or borrowed permits when demand pushes allowance prices up, say, during a cold winter or hot summer. Because climate change extends into the distant future and emissions contribute to the global atmosphere, it may make sense to cut deeply when it's economically feasible and let up when it's not. “But then there's the problem of whether it's credible to let firms borrow a lot of allowances in the early years of a program,” Parry says. “For political reasons, it might reduce the credibility.”

A European cap-and-trade program got a rocky start in 2005 because its administrators lacked accurate emissions data on the downstream users on which the caps were imposed. “They put the system in place and then required the accurate inventories and then, all of a sudden, when they collected the inventories, it turns out the emissions were different from what [they] were anticipating,” Parry says.

Join the Club

In the 1920s economist Arthur Pigou identified the concept of using taxes, now called “Pigovian” taxes, to compensate for negative side effects — externalities — of actions that harm third parties. Firms use the atmosphere as a depository for carbon but don't pay for it the way trash haulers, for instance, pay to dump loads into a landfill, having already passed along that cost to customers.

That's a kind of market failure, one of two that greenhouse gases represent. There's also no incentive for firms to research and develop new technologies to improve the situation. So it's necessary to price the privilege of sending pollutants into the atmosphere, says John Whitehead, an economist at Appalachian State University and co-author of an environmental economics blog. “When they see the cost, it creates an incentive to cut back pollution,” he says. And whether it's a carbon tax or a permit generated by a cap-and-trade plan doesn't matter. “In business terms, whether they're paying in the form of a tax or paying another business to buy their permit, it doesn't matter, \$100 is \$100.”

While a carbon tax or cap-and-trade plan may have similar outcomes, under certain conditions cap-and-trade plans aren't considered “Pigovian.” The permits (either auctioned or handed out for free) are considered property in this created market. Along with the permit goes the right to buy or sell, and perhaps borrow or bank them. The theoretical framework for the cap-and-trade plans was conceived by Ronald Coase, a Nobel laureate, who suggested that if it doesn't cost parties too much to bargain, then they'll achieve an efficient distribution of ownership rights. So if a firm can make more money selling permits (“rights”) than by using them to emit pollution, it must be

because that firm can better reduce pollution on its own at a lower cost than the permit buyer can.

Ideally a carbon price would be “harmonized” across sectors and countries. Yet the dynamic, gradual, and compounding effects of climate change make it tough to quantify the total costs to society, and the range of estimates is all over the map.

Based on 100 peer-reviewed estimates, the Intergovernmental Panel on Climate Change Working Group calculates that social costs in 2005 average \$12 per ton, but costs range from -\$3 per ton to \$95 per ton. Economist William Nordhaus of Yale University has developed models that suggest carbon taxes in 2010 could vary by policy scenario from \$2 per ton of carbon to \$200 per ton. Nordhaus favors an “internationally harmonized” carbon tax to achieve reductions or a well-designed universal cap-and-trade program. A regulatory approach, such as current policies that set emissions standards for vehicles and ban light bulbs, is inefficient.

The cap-and-trade versus carbon tax debate has been discussed widely in economics literature, government reports, the popular press, and on the Internet. In 2006 Harvard University economist Greg Mankiw founded an informal group, the Pigou Club, composed of economists who say a carbon tax offers the most effective solution to limiting global warming effects. That's especially true if the additional money the tax generates is used efficiently by cutting taxes that depress work effort. Club members include some pretty big names in economics as well as other big names, too, like Al Gore, who has endorsed a revenue-neutral carbon tax. However if a carbon cap-and-trade program sells rather than gives allowances away, the differences all but disappear.

— BETTY JOYCE NASH

Emissions were lower than expected and the cap wasn't effective, so prices collapsed. Now, however, source inventories are more accurate, and the goal is to cut greenhouse gas emissions by 20 percent by 2020. Carbon trades at between \$20 and \$40 per ton today. Ideally, the United States would impose the program on a fewer number of entities — fossil fuel suppliers — rather than downstream users because there is more accurate data on those sources.

Path Dependence

Economist Charles Komanoff has spent years advocating an alternative: a carbon tax. He is co-director of the nonprofit Carbon Tax Center. Critics of carbon taxes say the political process is not the best way to set a carbon price. But while auctions and trades discover the price of carbon, he notes, that price would be an indirect result of the political process, too, because politics establishes the cap. Even with the trade-off between emissions and financial uncertainty, “we take the position, and economists support this, that all in all there's more certainty going forward under a carbon tax than under cap and trade.” But the quantity limits lead most environmentalists to back cap-and-trade plans — something

Komanoff refers to as a sort of “path dependence.” Taxes are unpalatable and the cap-and-trade idea may be an easier political sell. Matthias Ruth says he's even had executives tell him not to even say the word “tax” because they “stop listening.”

Not everyone feels that way. A carbon tax is transparent, and the money stream would be steady and predictable. And lawmakers could use the tax to reduce other taxes or even rebate money back to taxpayers, the way Alaska pays its citizens a dividend of oil revenues. British Columbia levied a \$10 per-ton tax on carbon in 2008. The revenue goes to cut taxes on the bottom two income tax brackets and tax credits for the poor.

But if carbon allowances get auctioned, then the difference between the two systems narrows to a split hair. Gilbert Metcalf, an economist at Tufts University, notes that even if Congress sets a hard cap, it could be changed. “If abatement costs turn out to be unexpectedly high, the resulting high permit prices will create political pressure for Congress to relax the quantity constraint.” Metcalf, in a paper, argues for a gradually rising carbon tax with revenues directed to an earned income tax credit tied to payroll tax collections.

Can Offsets Cut Carbon Emissions?

Carbon “offsets” are being watched closely to see whether they significantly reduce additional emissions. These offsets take the form of certified credits available through a middleman who trades them on behalf of projects that destroy, displace, or sequester carbon. Governments or companies buy and sell offsets to comply with caps on carbon dioxide — or anyone could buy them for his own carbon use. (There are six primary greenhouse gases, but offsets are measured in metric tons of carbon dioxide equivalents.)

The wide range of offset opportunities includes renewable energy, forest management, or landfill-gas capture projects. Such a project in Greenville, S.C., made a list of 11 offset projects endorsed by the Environmental Defense Fund.

Enerdyne Properties developed a project that captures gases created by decomposing trash, one of which happens to be methane, also the chief constituent of natural gas. It is then turned into electricity. “If it's not collected and used and burned, it's a greenhouse gas that would otherwise go into the environment,” says William Brinker, whose father started the firm in 1993. “We're preventing the release of the methane and using it to provide reasonable electricity to consumers.” Some 6,000 metric tons of methane emissions may be prevented annually over the next 10 years, the equivalent of taking 23,000 passenger cars off the road every year, according to estimates.

While offsets have been around for years, they were codified in the Kyoto Protocol climate change agreement adopted in 1997 that became effective in 2005. The treaty binds 37 industrial nations to targets that cut greenhouse gas emissions to below 1990 levels between 2008 and 2012.

So far, 183 countries have ratified the protocol. The United States has not.

Some industrialized countries meet targets using cap-and-trade systems that cover power plants and major greenhouse-gas emitting industries. Targets may also be met with offsets called “clean development mechanisms” (CDMs). The CDMs generate certified emission reductions (CERs) that represent avoided emissions which can be bought and sold. The European Trading Scheme offers the biggest global demand for CERs. Offset contracts are also traded on the Chicago Climate Exchange.

But offsets have been criticized for not cutting emissions in some cases. A working paper by Michael Wara and David Victor of Stanford Law School argues that many CDMs do not represent real reductions in emissions. In one example, firms made more money from selling the credits generated by capturing a toxic byproduct of a refrigerant gas than by producing the gas. This “perverse incentive” actually encouraged refrigerant production for the waste that generated the emissions credits. Payments in this case overall will cost 4.7 billion euros while estimated abatement costs are probably less than 100 million euros, according to Wara and Victor.

Still, offsets remain big business. The World Bank estimates that the global carbon market — the buying and selling of greenhouse gas emissions — reached \$64 billion in 2007, double that of 2006, largely because of high carbon prices in European Union countries. But the recession will reduce emissions and credit carbon prices as industrial output declines.

— BETTY JOYCE NASH

Hybrid Plans

While economists agree that it's a sound idea to use market approaches to solve the problem, not all such policies will perform the same — that devil still lurks in details. Newell, the Duke economist, and co-author Carolyn Fischer have found that while emissions pricing offers incentives for fossil fuel producers to cut emissions, consumers to conserve, and for renewable energy producers to expand production and invest in knowledge, an "optimal" policy portfolio will also subsidize research and development. In theory, an efficient price would encourage private firms to research and develop alternatives, since they bear the burden of reducing emissions. But in practice, a price may not work that way. High prices that risk significant cuts in economic activity aren't likely to get through the political process. Also, there could be a steep learning curve in producing and using new technology.

By their calculations, there will be lower costs and better market penetration of renewable energy sources with the subsidies to R&D — the emissions price necessary to get to a 4.8 percent reduction would fall by 36 percent, to \$4.50 per ton from \$7 per ton.

What kind of money are we talking about? The Congressional Budget Office estimates that revenue from a cap-and-trade program could range anywhere from \$50 billion to \$300 billion a year (in 2006 dollars) by 2020. Talk about uncertainty.

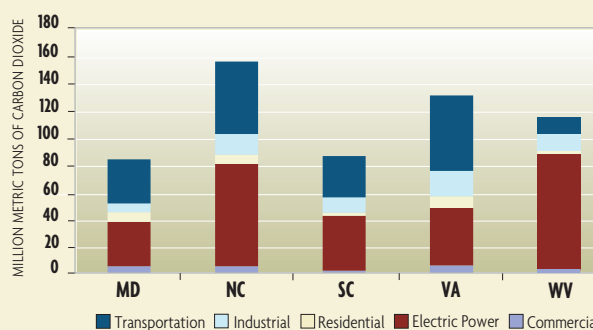
But what will happen to the money? With a big war going on and the economy dragging its feet, you have to worry about how Congress would use it, says John Whitehead, an environmental economist at Appalachian State University.

Cutting taxes on labor and capital would help the most. That could keep down the overall cost of the carbon control program, Parry says. But it won't work that way unless legislation spells out the automatic reductions in other taxes. Otherwise, the money would be up for grabs by special interests.

So What?

China surpassed the United States in 2007 as the biggest emitter of greenhouse gases, of which carbon is the chief component. (Methane is more harmful, but represented only 8.6 percent of emissions in 2006.) But the U.S. share of

State Emissions by Sector (2005)



NOTE: Total emissions for Washington, D.C., were roughly 4 million metric tons.

SOURCE: Energy Information Administration

accumulated greenhouse gases is 30 percent to China's 8 percent. Electric power plants supply the biggest single U.S. source of carbon at 40 percent, and coal produces about 83 percent of that electricity. Transportation accounts for about a third of carbon emissions.

It's not out of line to ask whether a cap and trade or carbon tax plan could significantly slow global warming because it wraps the globe, not just the nation. How about the slash-and-burn forestry elsewhere that accounts for 20 percent of global carbon? How about smoggy Chinese cities, smokestacks, and the burgeoning car culture?

"The ultimate aim would be that over 10 to 15 years we'd have an emissions trading scheme over most of the large-scale emitters in the world," Parry says. And a policy, a carbon tax or cap-and-trade plan or hybrid of the two, could influence other nations' efforts to innovate and restrict greenhouse gas emissions.

The European Union carbon trading experience has been instructive for the United States, which has better data, especially on power plant fuel consumption. Although there's no shortage of projections, there are still more questions than answers that only experience can provide. What price will achieve various emissions targets? How will demand respond to the prices? How easy will it be to substitute alternate fuels? The RGGI regional laboratory, meanwhile, is aiming to find out. **RF**

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Immigrant Entrepreneurs: Talent, Technology, and Jobs

BY BETTY JOYCE NASH

Tinh duc Phan and Vivek Wadhwa arrived on opposite U.S. coasts five years apart under radically different circumstances. Yet they share the common history of growing businesses. Phan has built a construction firm, while Wadhwa has co-founded two software firms, and now works as an executive-in-residence at Duke University's Pratt School of Engineering. Both believe that the United States contains rich entrepreneurial soil.

The nation's foreign born have reached a record high, in total numbers. And they have fanned out to most of the 50 states, many in regions unaccustomed to immigrants. Of the foreign born, 29 percent lived in the South in 2003. These demographic changes have been fraught with controversy and confusion about the role of immigrants, legal and illegal, in the labor market (see *Region Focus*, summer 2006). And that's too bad because it may have obscured the yields from this cross-border pollination — the birth of businesses that produce not only jobs, but also the new technology that speeds growth.

Entrepreneurship isn't only about money, says Wadhwa, who is from India. He arrived in the United States in 1980 after studies in Australia. "You are creating an economic system of innovation." Another bonus — the children of these newcomers inherit entrepreneurial aptitude. Phan landed at Camp Pendleton in 1975 courtesy of the U.S. military after the fall of Saigon. He preached entrepreneurship to his offspring yet did not practice it. He finally leapt. "If I taught my kids how to listen to me and then I chickened out, what kind of a father is that?"

Institutions such as bankruptcy laws that allow for failure, generally widespread access to credit, and intellectual property protection can encourage entrepreneurship. Wadhwa says simply: "America is still the place where everyone wants to be ... because you're allowed to fail over here."

The Tide of STEMS

Recent studies have examined the extent and influence of immigrant-founded businesses in the United States. A November 2008 study for the Small Business Administration puts the immigrant share of business owners at 12.5 percent, with total income of \$67 billion.

A study published in 2006 by the National Venture Capital Association (NVCA) calculated that immigrants formed a quarter of venture-backed public firms, with a total market capitalization of more than \$500 billion. The research included whoppers like Intel, Yahoo, eBay, Sun Microsystems, and Google. Most companies were in STEM

areas: science, technology, engineering, and math. Tech manufacturers were even more likely — 40 percent — to have an immigrant founder.

In a separate study, Wadhwa enlisted the help of students at Duke's Master of Engineering Management Program where he teaches. They called small- to midsized tech firms to ask founders' nationalities. Results mirrored NVCA's. Immigrant entrepreneurs founded 25 percent of U.S. engineering and tech firms established in the past decade. Those companies generated \$52 billion in revenue and employed nearly half a million. "We're talking about high-tech, high-growth companies which have been giving America its big advantage," he says. California (39 percent), New Jersey (38 percent), and Michigan (33 percent) headed the list of states with the greatest representation of immigrant tech firms. Virginia wasn't far behind at nearly 30 percent. Maryland (nearly 20 percent) and North Carolina (14 percent) also ranked near the top.

Maybe these numbers shouldn't surprise us. After all, 13 percent of the U.S. working population is foreign-born, and 25 percent of all scientists and engineers (half at the doctorate level) were born outside the United States.

Neither Wadhwa nor the NVCA are subtle about the studies' agendas. They want to demonstrate limitations of immigration rules, like the 65,000 cap on visas that allow U.S. firms to hire expert foreign workers for a limited time. A dearth of visas and a million immigrants waiting for green cards, they say, will hurt in the long run. "The United States is stuck in massive brain drain," says Wadhwa. Frustrated, talented techs may take their education credentials, earned in the United States, and go home. And in fact, there is evidence that the Chinese contribution to U.S. patent activity has leveled off, and the Indian contribution has declined, according to Harvard Business School economist William Kerr, after increasing dramatically in the 1990s.

The Knowledge Channel

So what? Don't inventors maintain two-way ties with the home countries anyway and communicate within a worldwide professional circuit? Not exactly. Kerr studies cross-border tech transfer, and says it's hard to document spillovers. When highly educated, productive immigrants depart, it matters where they work, he notes. And multinational companies make some of these decisions. If U.S.-educated talent in Beijing research and develop products for Microsoft, Kerr says, it's not a clear picture as to whether the United States loses out. At least part of that

knowledge and money flows back to the United States. But what if a “hotshot” Indian graduate can’t work here, returns to India, and “never picks up the phone or comes back to the United States?” he asks. “We could have benefited from the job growth and innovation.”

The question gets more complicated by the idiosyncrasies of research. Bright ideas spread quickly. Kerr says researchers are 30 percent more likely to exchange new ideas through “ethnic knowledge” channels for about five years, and by the time the notion is a decade old, the “ethnic effect” has dissipated — the idea is everywhere.

It’s clear that foreign output and productivity benefit via the ethnic channel. Kerr has found that a 10 percent growth in immigrants’ research in the United States improves immigrants’ home country output and productivity by 1 percent to 3 percent. These effects are particularly strong for China and the computer industry.

Research also depends on colleagues in the office, down the hall, down the block, and across town. “I am influenced more by research that happens here [at Harvard] or at MIT than I am from someone at Chicago — we meet in the hall or have lunch,” Kerr says. “For myself, it probably hurts me if some of the very best potential researchers I could collaborate with are going back to their home countries.” And restrictive immigration rules are not the only reason that immigrants leave. “There was the early 2000 tech recession and the financial troubles now — that will lead to foreign opportunities improving relative to U.S. opportunities.”

With regard to the expert visa (called H-1B) problem, it’s tough to solve for many reasons, not least of which is lack of data. “We don’t know who leaves; we don’t have a group to compare them against,” Kerr says. His research has confirmed that the policy has substantial impact for U.S. Indian and Chinese innovation rates, not surprising because they get the visas. Raising the cap increases overall U.S. innovation primarily through the new immigrants themselves. “This faster innovation growth is not very dramatic — 1 percent to 2 percent in the most affected cities compared to the least affected cities, but it may add up over the course of many years,” he says.

Immigration policy debates continue, along with research about economic contributions. Economists have found that an immigrant college graduate is twice as likely to patent as a native counterpart, according to research by Jennifer Hunt and co-author Marjolaine Gauthier-Loiselle in a National Bureau of Economic Research working paper. That’s because more immigrants than natives have science and engineering degrees.

As economies like China and India leap ahead economically, it gets easier to make money there. The rate at which its scientists and engineers return home may accelerate as entrepreneurial infrastructure improves, and that could dull the United States’ competitive edge.

Praveen Kalakuntla graduated from Duke’s engineering management program in December, and will join colleagues back home in India once he observes “how processes and

people work here in the United States.” Kalakuntla plans to use his expertise to further green technology, and says the Indian government provides support in the form of land, special economic zones, and tax rebates for businesses. “People in India at least now are not afraid to take the risk in something that might be better for the world.” But he would consider locating a branch in the United States.

Longtime entrepreneur and Cuban immigrant Al Guerra of Kelvin International Corp. heads the Hampton Roads Hispanic Chamber of Commerce. Nearly all of Guerra’s cryogenic (ultralow temperature) equipment customers are overseas. Guerra immigrated alone at age 10 in 1961 as Castro took over. His father, also a businessman, a car dealer in Havana, left first, and his mother and brother traveled separately later. The reunited family settled in Boston, Guerra became an engineer, and later worked at Jefferson Labs, investing in the business on the side. He moved up as far as he could, but says that Hispanics with high-tech skills can encounter a glass ceiling. So he left to run Kelvin International full-time. “Don’t forget, most immigrants have the risk gene already built in,” he says. Guerra confirms that many immigrants he meets through his work with the Hispanic Chamber start businesses to escape discrimination or advance a stalled career. Often, ethnic groups cluster within a field because of language, culture, and knowledge affinities.

From “Sojourn to Settlement”

While STEM businesses have reshaped and boosted the economy in the past decade, traditional service or manufacturing startups remain common paths for newcomers. A family member may immigrate and open a restaurant, and later bring in friends and relatives who learn the ropes and open another. Ditto for motels, convenience stores, nail salons, dry cleaners, and other service niches dominated by specific ethnic groups.

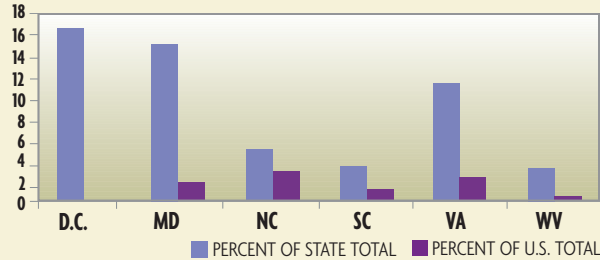
Relatives are preferred employees because of trust. Laura Zarrugh, a cultural anthropologist at James Madison University, documented immigrant business formation around Harrisonburg, Va. Entrepreneurship isn’t so



La Milpa in Richmond, Va., includes a restaurant, market, crafts, bakery, and a catering service. The business was started by Martin Gonzalez in 1995. He immigrated to Richmond from Mexico City in 1988.

Immigrant Business Owners as Percentage of State and U.S. Total

(U.S. Total: 12.5 Percent)



NOTE: Percent of U.S. total for D.C. = 0.1

SOURCE: U.S. Census Bureau, 2000

surprising for Latinos since a quarter of Mexico's work force is self-employed. In the United States, Latinos are less likely to own a business than whites or Asian Americans, but there is evidence that Latino business numbers are rising. In 2003-2004, Zarrugh identified 48 operating, registered, and licensed Latino businesses in Harrisonburg, up from one business in 1989, but more probably exist in the informal economy. The small town in rural Virginia reflects nationwide Latino self-employment. Latinos represented 3 percent of total self-employment in 1979 and 8.5 percent in 2003, helping them move from sojourn to settlement.

Martin Gonzalez arrived in Richmond in 1988. The Mexico City native knew people who had already immigrated to Richmond. As he progressed through nighttime English language classes at Crestview Elementary, he worked construction, washed dishes, and waited tables. Then he went to J. Sargeant Reynolds Community College. Along the way, he developed a fresh idea that gave him "good results right away." It was a Mexican store — food, crafts, groceries. Another Mexican immigrant financed the business. A decade later, he's got his own enterprise. La Milpa offers to its 80 percent Mexican clientele a bakery and catering, restaurant, market and Mexican crafts. Gonzalez says it's been the chance of a lifetime "to prove all the knowledge I have."

Money and Moxie

The entrepreneur who doesn't have to worry about startup money is rare — immigrant or native. It's hard if not impossible to go to a bank touting an idea with no collateral. But

venture capital, especially in the tech centers in Silicon Valley, Chicago, Boston, and to a lesser extent, Research Triangle Park in North Carolina, has until recently flowed into tech ventures. "If you have a good idea, it's not hard to get financing," Wadhwa says, but it depends on where you are. The National Venture Capital Association reports six Initial Public Offerings of venture-backed firms through third-quarter 2008, the lowest number over three quarters since 1977.

Traditional businesses can be tougher to get off the ground, with many people relying on personal savings, says Phan. It's how he started. Now his firm has grown to three divisions, employing from 30 to 60 people. But he now tells fellow Asians in his role as the director of the Virginia Asian Chamber of Commerce that savings is old time. "We need to teach them to learn how to use a credit line, how to use money in the market."

Charito Krivant, a Bolivian native raised in Argentina, started Creative Associates International in Washington, D.C., with savings and an initial credit line of \$50,000 that her husband had to co-sign. It was the 1970s. Today, the firm works in 17 countries helping people cope and recover from the effects of conflict, among other efforts. Today, the firm's credit line is \$18 million.

Most immigrant entrepreneurs Laura Zarrugh studied in Harrisonburg used savings and money from second jobs to get going. Many got loans from parents or siblings or (less often) friends. Only four obtained startup capital from banks or small business loans. Those who obtained such loans did so with the help of American associates, a realtor in one case and a boss in another. Lack of formal credit history makes it hard for entrepreneurs generally and immigrants especially to get money from financial institutions.

Money issues aside, Wadhwa thinks we take for granted the "potent force" of the American dream — work hard and make it big. "In almost every country in the world, this is not the case."

Likewise, as Phan shows the younger generation how to manage and keep a business going, he urges them to become joiners, to live in the larger community because, in his words, "I probably love this country because I saw the other side of the coin." **RF**

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Joseph Gyourko

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

The boom and subsequent decline of the U.S. housing market has many economists and the general public asking: What happened? Joseph Gyourko, a professor of real estate at the University of Pennsylvania's Wharton School of Business, has spent a lot of time examining that issue. In part, he says, the run-up was caused by irrational, speculative behavior by private lenders and borrowers. But there were other causes, too, such as land-use regulation that limited building in some cities and thus drove up prices. Gyourko argues that in areas where it is relatively easy to build, the correction will likely persist until prices are again driven by fundamentals — meaning, by production costs. In those areas where regulation has effectively capped the supply of housing, such as New York City, prices will be determined almost solely by demand, which has fallen recently as numerous Wall Street firms have encountered troubles.

Gyourko also has looked at the problems Fannie Mae and Freddie Mac have experienced. He argues that the implicit subsidy those companies received came with a costly catch — to provide risky loans to marginal applicants in the name of “affordable housing.” While the provision of affordable housing may be a laudable policy goal, it should be done transparently, with the budgetary costs clear to everyone. Ultimately, Gyourko argues, Fannie and Freddie should be shrunk and privatized.

As an urban economist, Gyourko has studied what drives economic growth and vitality. In today's economic environment the most important factor is human capital. Cities with innovative, high-skilled work forces will continue to thrive while many of the giant industrial cities will face a steady, if slow, decline.

Gyourko joined the Wharton faculty in 1984, after earning his Ph.D. that same year at the University of Chicago. He has served as co-editor of *Real Estate Economics*, been a visiting scholar at the Philadelphia Fed and a nonresident senior fellow at the Brookings Institution, and since 2006 been a research associate with the National Bureau of Economic Research (NBER). He currently is director of Wharton's Zell/Lurie Real Estate Center and co-author with Edward Glaeser of the recently published *Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable*. Aaron Steelman interviewed Gyourko at his office at Penn on Sept. 25, 2008.



RF: Is the expansion of homeownership, in your view, a desirable public-policy goal?

Gyourko: I think there are benefits to homeownership. That said, expanding it the way we have done is clearly not worth enduring systemic risk. So, given how we did it and what we got, the answer is no.

This is how I think we should consider the issue: When you become an equity owner, you have a stake in your community. You have a stronger incentive to make the community better than if you were transient. That is the standard economic argument in favor of potentially subsidizing homeownership. But there is no evidence in the literature that relies on truly experimental or exogenous variation which shows there is any benefit. We all believe there is but it is very hard to find. You can identify correlations of being a homeowner and better outcomes for children, of being a homeowner and being more public-spirited in terms of becoming informed about public issues. But it's hard to show causality. Yes, I think economists believe there are positive externalities to being a homeowner. But there is no way that those positive externalities

justify the extent we have intervened in the market through the huge subsidies that have gone to Fannie Mae and Freddie Mac and created systemic risk.

RF: What do you think of the home mortgage interest deduction?

Gyourko: It's a political sacred cow. But I don't think it has done much good and I am not in favor of it. Ed Glaeser has done some work that shows its effect on the homeownership rate is very small. Consider my own case. My decision to buy a house is not affected at all by the home mortgage interest deduction. I have two children who go to public schools in a nice area. And to go to those public schools, you have to own a home because there is not much rental stock. So that's a big reason why I am a homeowner, not because I can deduct the mortgage interest.

What the policy does affect, though, is the type of homes people own. I probably own a bigger home than I would otherwise. But it's not at all clear to me why you would want to subsidize middle- and upper-income households. I don't think it is affecting the homeownership rate much and it is a subsidy to the relatively better off.

RF: How much, if at all, does homeownership contribute to frictions in the labor market — that is, lessening mobility for new and perhaps more suitable employment options?

Gyourko: We are a little unclear on sharp estimates. But Ed Glaeser and I did some work in 2005 which shows that cheap housing in general is really attractive to the poor in declining areas. The argument goes as follows: If you are a low-skilled worker, your wage is pretty much the same in Detroit as it is in, say, Charlotte. However, prices in declining areas like Detroit can fall dramatically below construction costs but not in Charlotte. So you might actually be relatively better off in Detroit, even though your employment opportunities are less, because you can consume a lot of great housing at a cheap price.

More broadly, some work I recently did that is now out in the NBER Working Papers series shows that if you go negative in terms of your home equity, your two-year mobility rate falls by half. Why? Mainly, I think, because those people are capital constrained. Also, I think there is some loss aversion that is going on. But it's clear that there are large mobility effects if you have negative equity in your home. I think they are much smaller if you do not have negative equity.

We do know that there are big differences in mobility between renters and owners. But, again, that is not necessarily causal. I am an owner and I am much less mobile than my research assistant who is a renter. But that's because he is young and doesn't have kids, whereas I want to stay in the

Supply-side restrictions are a big reason why housing prices are so high in some markets.

same place. I don't want to move my kids out of school. People who want to stay in one place do tend to own a home, but it's not necessarily the home that locks them in.

RF: I have read that the nonprime mortgage market reached nearly 40 percent in recent years. What do you think is a more stable long-run figure?

Gyourko: Actually, the nonprime market reached 50 percent in 2006. That includes subprime, Alt-A, home equity, and FHA/VA. The sum of those four reached 50 percent of mortgage volume issued in 2006. In a typical year, it would range somewhere between 10 percent and 20 percent. It skyrocketed. I think the 10 percent to 20 percent range is more normal.

RF: What do you think caused that increase?

Gyourko: There were a couple of factors. First, a long period of rising prices led both borrowers and lenders to believe that, with relatively little risk, you could have very high leverage and very low rates. That, combined with the very large fees that these loans generated, led to an increase in market share. Second, I believe the government strongly encouraged it. Fannie and Freddie provided important liquidity for this market.

Why did they do that? I doubt that it was because they thought it was in their shareholders' interests. They probably thought these were risky loans. They had Congress telling them that their implicit subsidy comes with this mandate to provide affordable housing, and this was one of the ways that they did it. Our political system very much encouraged them to provide liquidity and extend these risky loans to very marginal buyers.

RF: What would you view as a desirable endpoint, from a policy perspective, with regard to Fannie Mae and Freddie Mac?

Gyourko: I would like to see them shrunk, privatized, and spun off. That means the affordable housing component of their reason for being has to be taken over by somebody else, because I don't think we should do away with all affordable housing programs.

But I do think those programs ought to be brought on-budget and placed in the Department of Housing and Urban Development or a similar entity and made an explicit cost to the government. The way to get these programs managed properly is to have them truly transparent, and then we can decide which ones we think are worth it and which ones are not. I think the reason these programs got so big was that they were off-budget, and politicians could nudge Fannie and Freddie management because there was

no cost in terms of actual budgetary expenditures, even though there was obviously a very large cost in terms of risk.

RF: Could you discuss your work with Ed Glaeser on land-use regulation and the price of real estate in urban areas?

Gyourko: Glaeser took a leave from Harvard and visited Penn for a year. We started talking and one of the things we noted was that the dispersion in house prices across markets is going way up over time. However, the high land price areas are relatively few and they are almost all on the coasts of the United States. The question is: Why is that the case? One answer would be, if you only believe in horizontal development, you have an ocean as a natural barrier to growth. But you can also build up, and New York was the classic case.

Another reason might be income. The reason prices are higher in New York, Boston, San Francisco, and Los Angeles is that incomes are higher. And then you get another boost for San Francisco and Los Angeles because the climates are great. People are willing to pay for that.

But supply is an important factor. It became clear that unless you have differences in supply, you could not explain why prices were very high in those markets. There has been very little new construction. And the reason why is that there have been restraints on growth. Developers would like to build but they can't because of regulation. We have now convinced ourselves, and I hope others, that supply-side restrictions play a big role in how those markets have changed and are a big reason why their prices are so high. The existing residents of those areas have been very successful at limiting growth.

RF: Why would you see such behavior among residents in only a select group of cities, though?

Gyourko: We don't know. As economists, our first thought is that the people of New York and San Francisco are just protecting capital gains. But let's assume that the people of Richmond and Atlanta are not stupid, and obviously they are not. They could figure this out, too, and place restrictions on growth. But they haven't. Clearly there is something else going on. It could be social. It's a huge research question.

RF: Do you see the trend of tremendous growth in house prices on the coasts continuing?

Gyourko: In the long run, that trend will continue. But in the short run, they are going to fall. New York's housing supply is inelastic so the prices are determined by demand. When Wall Street is booming, housing prices are going to rise. When it is having trouble, like now, housing prices are going to fall, I think substantially. But in the long run — let's say 10 years or more — prices are going to continue to rise. They are attractive places to live — they have a lot of amenities — and they have high human capital.

So as long as people want to live there and they are fundamentally productive, prices will go up in the long run if you restrict supply.

RF: Have you looked at Houston? If so, how has its regulatory policies (or lack thereof) affected development compared to other Sun Belt cities?

Gyourko: In terms of growth, there's not much difference. Atlanta, Dallas, and Houston have all grown well above the national average in terms of population expansion. And if you are growing in population, it means you are building homes. The correlation between the change in population and the change in housing units is almost one. So they are all growing at fairly similar rates.

What differentiates Houston is that it is more of a hodgepodge, because it is unique in its relative lack of zoning policies. So you get one type of development right next to a completely different type. Personally, I don't like that. I think there actually are negative externalities to that type of growth.

While Glaeser and I have argued that the social costs of development congestion are not nearly as high as the price increases associated with excessive limitations, I am not a believer in no zoning and no regulation. There really are some social costs, and I think Houston probably goes too far. It doesn't internalize some of those costs. You should think about traffic flows. You should think about pollution spillovers. It is reasonable to try to internalize the costs of those things. It is quite legitimate for government to congregate certain types of activities in select areas. That's a far step from, say, having huge minimum lot size requirements, so that only the super rich could live in an area. In short, I think cities are better off with some regulation, much less than New York, but probably more than Houston.

RF: Some people have argued that the housing markets in cities like Buffalo, Cleveland, and Detroit are ripe for a rebound as jobs become more mobile, due to telecommuting, and people look for more affordable housing. Do you think there is some truth to those arguments or do you think they tend to be too optimistic?

Gyourko: I think it is highly unlikely that we will see a rebound in those cities' housing markets. Again, what drives modern growth in the modern era — ever since manufacturing deurbanized — is skills. You need high-skilled people, and there is no reason for those people to go to Buffalo. They can go to Charlotte, Atlanta, or Dallas, where the climates are better and there tend to be more amenities.

Now, is it possible that one of those slumping cities will have the next Bill Gates in it, just by serendipity, and that he sprouts a huge new industry there? Yes, it's possible. But it would require a lot of luck.

RF: You have talked a lot about how people value amenities when choosing a place to live. Older industrial cities tend to still have good medical facilities, nice museums, and world-class orchestras, all of which arose during their industrial heydays. Why aren't those attractive to residents?

Gyourko: They are important. Those things help to explain why urban decline is so long and so slow. This wealth that they accumulated when they were great industrial towns is very durable. It has thrown off things that have lasted a long, long time. The Cleveland Clinic is still with us, it is still one of the great medical centers in the world, and that's not going to go away. But the rest of the place will slowly decline because very little of our economy is tied to having cheap water access, which means that the business value of being on the Great Lakes has declined sharply.

RF: Many cities have helped fund sports stadiums, with public officials arguing that such facilities will improve the business and residential climates in such areas. For instance, this argument was used in Washington, D.C., when the new baseball stadium was built in Anacostia. Is there much evidence to support such claims?

Gyourko: The bulk of the evidence is that, in a purely fiscal sense, these things don't work. The numbers don't add up. So to justify them, you have to make different arguments. When Ed Rendell, the former mayor of Philadelphia and now the governor of Pennsylvania, argued in support of subsidies for stadiums for the Phillies and the Eagles he said that there are valuable social spillovers. There's a feeling of community that is generated by having nice stadiums where fans can go and have a good time. I think that is the only argument that is plausible.

I personally don't like these subsidies. Consider the Eagles. The National Football League operates a type of monopoly. There is not free entry. So when you subsidize stadiums, you are providing a subsidy to players and management. I see no reason why the median taxpayer in this town should subsidize Jeffrey Lurie, the owner, or multimillion dollar players. I didn't favor such subsidies. I don't favor them. And I have never seen any hard, good evidence, which is replicable, that shows they are positive in a fiscal sense.

Rendell made a noneconomic argument. I don't think it's a compelling argument. But it is a far stronger argument than claiming that there will be a net revenue gain by subsidizing stadium construction. One of the reasons that the economic argument is weak is that people have a relatively fixed budget for leisure. People who don't go to the football stadium and spend money there are likely to spend those funds elsewhere, say, at the movies. But they are not likely to spend money both at the game and at the movies. They are choosing between available options.

RF: But what if the city council decides that it wants to revitalize a certain part of the city and that building a stadium would help do that?

Gyourko: Yes, that has been a justification for some stadium subsidies. But when people say that they want to improve an area, I suspect that what they really want to do as a society is to help the people living in that area. A much cheaper and more efficient way to do that is to directly give them money. So when you think about the subsidy for the Washington Nationals' new ballpark in Anacostia, think about the money that was spent on that. Then take that same sum, divide it by the number of poor people living around the stadium, and that's the size of the check you could have given them. If you really want to help them, that's the way to do it.

RF: How accurately do households factor in commuting costs when purchasing houses in the suburbs or exurbs?

Gyourko: I haven't seen economists address that question. But I think people understand quite well what the trade-offs are. And, increasingly, people who work in the downtown core do not live in the exurbs. Remember, the reason you have exurbs is that businesses follow people out there. So those people's commuting costs are often much lower than you might think.

I will give you an example: the Philadelphia metro area. The largest office node is not downtown Philadelphia. It's the King of Prussia office node northwest of the city. It has 10 million more square feet of office space than downtown Philadelphia. People live around there and have pretty short commutes. So employment has suburbanized and that's why commuting times are not as severe as a lot of people believe.

I think people understand how much they are going to have to drive. The real question is: Do we pay too little for gasoline? The answer is almost certainly yes, at least until recently. The true social cost of driving was higher than the price we were paying at the pump.

RF: What do you think of "Best Places to Live" studies?

Gyourko: I am not a big fan of the popular ones because they don't do it through revealed choice. Quality of life should be measured by how much you are willing to pay to live in an area. Instead, a lot of these indices put places near the top of the list with cheap housing. As an economist, I know that housing must be expensive somewhere because it is really attractive or really productive. High prices signal high quality of life, not low prices. The classic urban spatial equilibrium models say that housing prices are the fees you pay to access the amenities and productivities of an area. I built some indices in the early 1990s based on that assumption. I think most of the business community gets this backward, because they like low prices, not unsurprisingly. From their point of view, Green Bay looks really

attractive. Do you really think the quality of life is higher there? My argument would be no, because people are not willing to bid up the price.

RF: You have a recent working paper titled, “Do Political Parties Matter? Evidence from U.S. Cities.” Can you talk about that a little?

Gyourko: That paper is forthcoming in the *Quarterly Journal of Economics*. There is a big political economy literature out there which says that at the federal and state levels, political parties matter. That is, partisanship is important because the policy outcomes are quite different if, say, the Republicans are in control rather than the Democrats. My colleague Fernando Ferreira and I thought that this probably isn't true at the local level. We suspected that the reason is that there is much more competition at the local government level. For instance, if I don't like policy at the federal level, what am I going to do? I could move to Canada. But that's very costly. It's also usually costly to move to another state. But if I don't like the policies of my hometown of Swarthmore, it's pretty cheap to go next door. So we thought that competition would restrain partisanship.

We spent a couple of years collecting data on mayoral elections: which party won and by how much. In this paper, we looked at close elections and compared local fiscal policy outcomes — how big was the government, what they spent their money on, things like that. The reason we relied on close elections is that it doesn't appear that the populace of those jurisdictions have extreme preferences. And so it becomes possible to test whether a politician is able to impose his views in favor of either smaller or bigger government. It turned out that it didn't matter whether a Republican or a Democrat won a close election. They do basically the same thing.

This, in my view, is basically a validation of Anthony Downs' median voter theory. At the local level — perhaps not at the federal or state level — what really matters are the preferences of the median voter. It's not the preferences of the politicians who get elected. The politicians are driven by the competitive forces of their environment to do what the median voter wants. Mobility is so high and there are so many competitive districts within a metropolitan area where people can move to, that the politicians must respond to the median voter's wishes. A politician might be ideological but he can't act on it.

To give you an example, in Swarthmore there are a bunch of single-family homes owned by relatively high-income

Joseph Gyourko

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Martin Bucksbaum Professor of Real Estate and Finance, The Wharton School, University of Pennsylvania

► Education

A.B. (1978), Duke University; Ph.D. (1984), University of Chicago

► Selected Publications

Co-author of *Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable* (2008); author or co-author of numerous papers in such journals as the *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Journal of Law & Economics*, and *Journal of Urban Economics*

people who are willing to tax themselves a lot to get good public schools. That's the median voter. Any politician who said he was going to cut taxes and not fund schools would get run out of town on a rail. He might believe that personally, but he would never declare it publicly.

RF: Are there any issues that you are working on currently which you think are important that we haven't discussed?

Gyourko: Ed Glaeser, Albert Saiz, and I have this paper, “Housing Supply and Housing Bubbles,” that just came out in the *Journal of Urban Economics*. Basically, it shows that in

inelastically supplied housing markets, volatility really is higher. It's true not just on the blackboard, it also shows up in real-world data. Inelastically supplied housing markets have much bigger housing booms and busts, which is a bit foreboding right now. When fundamentals change, price could adjust or quantity could adjust. But quantity can't adjust in an inelastic market. All of the adjustment from the change in fundamentals is in prices. They can really boom in good times and really bust in bad times. So as we think about this housing debacle, one of the ways to at least lower volatility in the next downturn — and there will be another one — is to think about increasing the elasticity in these markets.

The other thing in that paper which I think is interesting really goes back to work by Sherwin Rosen and Jennifer Roback. In a free market, prices are pinned down by production costs. And those production costs are physical construction costs, land and land assembly costs, and entrepreneurial profit. In that paper, we compute each of those costs for each market. You can build an 1,800 square foot home in any market in the United States for less than \$200,000 in today's dollars.

If you look prior to 2003, throughout the Sun Belt, in any unconstrained market where you think supply elasticity is high, actual prices never deviate by more than 10 percent. It appears to work really well. Then, after 2003, in Florida, Phoenix, Las Vegas, the Inland Empire of California, prices started to deviate considerably. That appears to be the beginning of the real mispricing of housing. Those markets start to look like they are inelastic in supply, but the number of permits never went down. As an old Chicago School guy, it's the closest I have ever come to saying we simply mispriced this asset. Theory tells us that prices should be pinned down by the sum of those three factors, and for 20 years they were. To me, this also suggests where prices are going back to in those markets. **RF**

ECONOMIC HISTORY

Gold Among the 'Heels

BY BETTY JOYCE NASH

News of gold discoveries pulled in experts, captains of industry, money, and miners to the sleepy backwater that was early 19th century North Carolina.

This illustration of the Gold Hill mining works appeared in Harper's New Monthly Magazine in 1857, 15 years after gold was first discovered in the district.

The area was most prosperous and profitable between 1853 and 1858. In 1854, miners struck a new deposit. The Randolph mine plumbed 800 feet, and yielded more gold than any mine east of the Mississippi.



When people say the streets of Charlotte are paved with gold, they're not speaking metaphorically. They may very well be flecked with gold underneath the asphalt.

Eleven years after the Constitution was ratified and 50 years before the Forty-niners rushed to California, a Cabarrus County, N.C., farm boy picked from a creek a shiny rock that his father used as a doorstop for three years. At least, that's the story. It brought \$3.50 from a Fayetteville jeweler but was worth \$3,600. The rock turned out to be a 17-pound gold nugget, and there was more where that came from — the Reed Gold Mine.

News of North Carolina gold set off a half century of discoveries in the South, from Virginia to Alabama. The gold turned corn and cotton farmers into spare-time surface miners, and eventually brought people from mining regions of England, Wales, Italy, Germany, Austria, and Poland, not to mention put money directly into the pockets of the cash-poor citizens of this new nation. As surface mines played out and evolved into deep mining enterprises, private interests organized investors, business plans, large-scale machinery, and mining expertise to create full-time corporations. These industrial enterprises attracted money from the North and abroad. The state also, in 1827, granted the first corporate charters to mining firms, giving investors some legal protection.

The North Carolina gold rush pales in

comparison to California's, which produced gold estimated at \$200 million (in that era's dollars). North Carolina's output totaled about \$17.5 million between 1799 and 1860, excluding gold that was bartered or shipped abroad. (The price of gold hovered around \$20 per ounce throughout the 19th century.)

In contrast to the wild California migration from around the globe to stake claims, the North Carolina rush seems subdued. But from 1804 until 1828, all domestic gold coined at the U.S. Mint in Philadelphia came from the Tarheel state. At the time, however, precious little came back home to circulate.

Grains of Gold

New World explorers searched for gold to no avail. While rumors of riches abounded in the Colonial era, there's no record of its discovery. But the Europeans who undertook those expeditions were on royal missions, and most gold discovered would have become royal property. "Thus, there had never been a gold rush," writes Bruce Roberts in his book, *The Carolina Gold Rush*. "What sense was there in rushing in to get something the king's men would appropriate?"

North Carolina gold lay in what's known to geologists as the Carolina slate belt, a swath that extends through the Piedmont region from Virginia to Mississippi. But mines also were found in the western and eastern parts of the state, according to retired historian Richard Knapp, who co-authored *Gold Mining in North Carolina* with Brent Glass, who now directs the Smithsonian's National Museum of American History.

U.S. Mint deposits don't reflect the total amount of gold produced because miners spent gold with local

merchants, shipped it to Europe, and used it to make jewelry and decorate guns besides sending it to be coined. At the country stores, a pennyweight of gold was worth almost a dollar, according to Bruce Roberts.

North Carolinians needed that cash. Production in those early years had been erratic, and annual shipments to the Mint in Philadelphia were negligible, partly because the gold particles served as currency. Gold was highly valued, according to Knapp and Glass, because there wasn't much currency to be had. By 1819, only \$5 circulated for each citizen in the nation. The North Carolina state geologist of the era, Denison Olmsted, wrote: "Almost every man carries with him a goose quill or two of it [gold], and a small pair of scales in a box like a spectacle case ... I saw a pint of whiskey paid for by the weighing of 3 1/2 grains of gold."

As cotton fortunes rose and fell, eras of price decline inspired farmers to spend more time finding gold. Most mines remained inefficient and production sporadic, but several gained prominence and, by the 1830s, the gold mines were becoming big business.

Easy Pickings

At first, farmers found gold in streambeds, what was called "placer," "branch," or "deposit" mining. Farmers diverted water to wash pans or troughs of gravel. (Gold is 19 times heavier than water, eight times heavier than sand, and three times heavier than iron, so it sank to the bottom. Gold particles are also attracted by amalgamation with other metals.) Miners worked for a share, typically 87 cents to 90 cents per day, according to Roberts, although it's hard to believe the hired help didn't stuff their own pockets first. The amount, comparable to the era's farm labor wages, varied day by day, mine by mine, according to the gold that laborers found.

By the 1820s surface gold had begun to play out. William Thornton, the architect who had designed the U.S. Capitol building, had researched gold prospects in 1806, and returned to Washington, D.C., to form the N.C. Gold Mine Co. His venture fizzled, but he contributed the insight that more gold might lay underground.

The gold mining industry began in earnest in 1825 when a Stanly County farmer named Barringer investigated a rock outcropping. He struck a vein of gold mixed with quartz, and in one day had extracted \$1,200 to \$1,500 worth of gold.

Before the mines lost their glitter, half the state's counties had at least one, with the most found in Mecklenburg. That county's mines included those with colorful names like Queen of Sheba, King Solomon, and the famous Rudisill mine at the intersection of Mint and Summit streets in Charlotte. Count Vincent de Rivafinoli managed the Mecklenburg Gold Mining Co. that employed about 600 people. By 1830, the Charlotte-based *Miners' and Farmers' Journal* began publishing. Articles about gold mines were picked up in other weekly newspapers, and the news of North Carolina gold put the state on the map.

"Mecklenburg County may have been a 'hornet's nest' to Cornwallis and a 'trifling place' to George Washington but

40 years later it was a prospector's paradise with a mine on every farm," writes Roberts.

But turning gold nuggets into coins presented almost as much of a problem as mining it. The trip to Philadelphia over rutted roads offered little but danger and an expense of 5 cents to 10 cents a mile. If a mine owner preferred to stay home so he could mine more gold, he could ship his product, but risked theft and expense that way, too. And if he cashed the gold out at a local bank or business, he would pay a commission of 6 percent or more.

Legislative efforts prevailed when, in 1835, President Andrew Jackson signed legislation authorizing branch mints in Charlotte (population 730), the center of gold production. The legislation also brought mints to Dahlonega, Ga., and New Orleans.

Even though the U.S. Mint didn't open the Charlotte branch until 1838, a private enterprise had been minting coins in the town of Rutherfordton in the foothills for seven years.

The Bechtler Mint

A German gunsmith, Christopher Bechtler, Sr., immigrated from a gold-mining region in Germany when news of North Carolina's gold reached Europe. He settled near gold finds in the South Mountain geological belt, opened shop in 1831, and minted the first American gold dollar. The U.S. Mint did not begin coining gold dollars until 1849. (The Charlotte Mint produced only gold coins — totaling approximately \$5 million over the life of the mint — in three denominations.) Bechtler's books, according to Roberts, show that he coined more than \$2.2 million from 1831 to 1840.

By this time, the deep mining that required equipment, labor, and know-how had taken root. Shafts were sunk to as much as 900 feet deep in the Gold Hill Mines, perhaps the most developed hard-rock mine in North Carolina, according to Knapp and Glass. In 1857, *Harper's New Monthly Magazine* published an illustrated account of life in this mining town in Rowan County near Salisbury, N.C. The author, writing under the pseudonym Porte Crayon, describes his descent into the mine's mouth:

This was a square opening lined with heavy timber, and partly occupied by an enormous pump used to clear the mines of water and worked by steam ... The ladders were about twenty inches wide, with one side set against the timber lining of the shaft, so that the climber had to manage his elbows to keep from throwing the weight of the body on the other side ... Heated and reeling with fatigue, they at length halted at the two hundred and seventy foot gallery. Here they reposed for a few minutes, and then leaving the shaft walked some distance into the horizontal opening ... The miners were congregated here, awaiting the explosion of a number of blasts in the main gallery ... They were soon enveloped in an atmosphere of sulphurous smoke.

Gold Hill today is a 70-acre park privately owned by the nonprofit Gold Hill Foundation, which also owns the mineral rights over 400 acres. From documents and clippings, Vivian Hopkins, who lives near Gold Hill, has pieced together the history of the gold heyday. The first discoveries were in 1823 and 1824, she says, with copper and silver running through the veins as well as gold. The mine's two main shafts, Barnhardt and Randolph, plumbed depths of 500 and 800 feet, respectively. By the early 1840s, the mine had become a conglomerate of 23 mines in the Gold Hill region. The lively town developed the usual businesses of the day: a general store, shoemaker, livery stables, and wagon makers.

Gold Hill investors traded stock on a New York exchange; mine experts oversaw three daily shifts. While the gold mining industry never replaced farming, authors Knapp and Glass write that it "offers impressive evidence of industrialization that struck a balance between industry and agriculture, a balance that persisted in other, more successful industries that fueled the state's economy well into the end of the twentieth century."

The Panics of 1837 and 1857

The North Carolina gold rush erupted in an era when state banks issued their own notes, and attempts at national banking had foundered. Silver coins that had been produced at Philadelphia were being hoarded by state and private banks to back their paper currency. The effects of the gold finds in North Carolina on the financial system apparently have been little researched, yet the claim is made that North Carolina gold made a big difference in the amount of gold available to the federal government, Knapp says.

Even after the California Gold Rush, the mines at Gold Hill thrived, Hopkins says, noting it wasn't until 1857 that *Harper's Weekly* published its accounts of Gold Hill. Up to the Panic of 1857, which brought a chain of failures of banks and businesses, many gold mines were bought by Northern interests, Knapp says. But by 1860, even before the Civil War forced operations to cease, gold mining began its decline.

"The Panic of 1857 had an effect — it was harder for companies after that depression to raise capital, and they were competing with companies in California, which probably offered better chances," he says. Mining engineers and experts migrated to California, and gold in the North Carolina mines was getting more expensive to extract because deep mines typically hit water. There's an old saying that when the pumping starts, the mining ends, Knapp says, adding that there were more engineering

problems than there was gold to be had.

But one flamboyant promoter of the era, Walter George Newman, enticed Wall Street investors by salting the mine at Gold Hill with gold nuggets. Newman went out of business and died penniless.

The North Carolina Militia put the Charlotte branch mint under state control in 1861, with its coins and bullion turned over to the Confederate states. It never reopened but served as a hospital and headquarters during the war. The structure was rebuilt, altered, moved, and today houses the Mint Museum of Art, where the exhibits include gold coins.

While the gold mines never had the long-term impact of the textile or tobacco industries, the deep mines nevertheless were the first industry to attract significant outside capital and form corporations. Farmers' mining efforts, and later deep mine enterprises, brought an organization of work routines and expertise critical to industrial development.

An overlooked contribution of the gold mines in the state's industrial evolution was its public relations value. News of gold pulled in experts, captains of industry, money, and miners to the sleepy backwater. They came from the North and abroad, especially England. And the wealth generated by the gold industry played a part in the development of Charlotte as a banking center. Consider Robert Miller who bought Charlotte's Rudisill gold mine in 1878 along with several partners. Miller was an original board member of the Commercial National Bank, Bank of America's predecessor.

In the Depression, there was a resurgence of creek and deep mining especially after President Franklin Roosevelt fixed the price of gold to \$35 an ounce, its first significant increase in many years. "It got people interested in gold as a source of income," Knapp says. Although workmen did find a nugget while constructing a new building for First Union National Bank in Charlotte in 1969, the easily gotten gold was no doubt exhausted.

Gold seekers today can walk portions of a restored mine tunnel and pan for gold at the state's historic site where the Cabarrus County boy found that first chunk, the Reed Gold Mine. And prospectors still pore over geological maps. In 2008 the Gold Summit Corp. of Nevada investigated the potential for gold on sites in North Carolina and South Carolina, showing that the fascination with *el dorado* never dies. The results proved too weak to pursue, according to a press release, but "the partners remain interested in evaluating more of the higher-priority gold anomalies in the broader districts if suitable option terms can be negotiated." **RF**

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Knapp, Richard, and Brent Glass. *Gold Mining in North Carolina*. Raleigh, N.C.: Division of Archives and History N.C. Dept. of Cultural Resources, 1999.

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Bringing Life to the Dismal Science

**THE PRICE OF EVERYTHING:
A PARABLE OF POSSIBILITY AND PROSPERITY**

BY RUSSELL ROBERTS

PRINCETON: PRINCETON UNIVERSITY PRESS, 2008, 203 PAGES

REVIEWED BY AARON STEELMAN

At the beginning of the appendix to his new novel, economist Russell Roberts of George Mason University writes: “This book is my attempt to give the beginner and the expert a better understanding of the role prices play in our lives — how they create harmony between the competing desires of consumers and entrepreneurs, and how they steer resources and knowledge to transform and sustain our standard of living.”

As you might suspect, then, *The Price of Everything* is no ordinary novel. Yes, it has a plot, but it is secondary — a device to get across some core economic points. This means that the book is long on dialogue and some readers might be tempted to say short on character development. But through these extended conversations, you not only learn economics, you also find out what makes the main characters tick. This is especially true of Ruth Lieber, an economist whose zest for her job and life in all its facets makes her the real star of *The Price of Everything*.

The story, though, does not center around Ruth. Instead, the main character is Ramon Fernandez, a standout tennis player at Stanford University. Ramon came to Miami from Cuba with his mother, Celia, when Ramon was just 5 years old. Ramon’s father, Jose, had been a star baseball player, a national hero, whose athletic gifts had garnered him special favor with the Cuban government and meant that his family lived in relative opulence.

But shortly after Jose’s death, the favors that his family had received began to disappear. The Fernandez clan was no longer useful to the Castro regime — at least not for now. Those favors might reappear if Ramon turned out to be a great athlete like his father. But Celia wanted more for her son. She wanted him to be able to choose the life he wanted to live, and so they fled to Florida, where Celia worked cleaning houses and Ramon became a tennis prodigy. After their defection from Cuba, all official memory of Jose was destroyed.

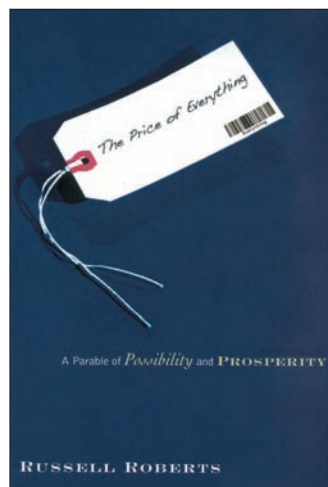
The book opens with Ramon and his girlfriend Amy making dinner when an earthquake hits the San Francisco Bay area. They drive to Home Depot to buy flash-

lights but find that the store is sold out. So they go instead to “Big Box,” a new chain that is described as a combination “Home Depot, Sam’s Club, and Borders.” Big Box has an ample supply of flashlights, milk, and other items people want following a natural disaster. But there’s a catch: The store has doubled its prices in response to increased demand. This outrages Ramon who believes the store is taking advantage of people in a crisis, especially poor people like his mother back in Florida. He later determines to stage a protest against Big Box — whose CEO happens to be one of Stanford’s biggest donors — that ends in chaos. Not to be deterred, he plans to use his opportunity as commencement speaker to rail against the injustices of Big Box and other companies that, in his mind, put profits over people.

In the intervening weeks before graduation, though, Ramon gets to know Ruth, who is teaching one last class before retirement. Amy is one of her students, and she tells Ramon of the excitement that Ruth brings to the classroom. Ruth believes that, while not perfect, the market is the institution best suited to meeting the myriad desires of people, rich, poor, and in between. She hopes to demonstrate to her students that the actions of the market may seem unruly, and at times unfair, but that order emerges naturally. One of her favorite phrases is that the fruits of the market are “the result of human action but not the result of human design,” echoing the Scottish Enlightenment thinkers of the 18th century.

Ruth explains to Ramon why Big Box’s decision to double prices may have seemed hard-hearted but that it also probably was the best way to allocate goods in the time of a disaster. Ramon remains skeptical — and suspicious. Is Ruth Lieber simply a shill for Big Box, someone who doesn’t want to see him bring embarrassment to the chain at commencement? Several conversations later, he remains unsure of “the virtues of unmanaged, uncoordinated, unorganized, undesigned action.” But he’s also less sure of his own original position — and he certainly no longer doubts Ruth’s sincerity.

Ramon and Amy graduate, get married, and after winning several Grand Slam championships, Ramon has plans to move his family to his homeland, which is now a democracy in the post-Castro era. He visits Ruth one last time, who is now elderly and living in retirement on the Northern California coast. It’s a touching scene and a fitting end to a book that shows that a market-based economy is neither boring nor heartless. **RF**



DISTRICT ECONOMIC OVERVIEW

BY SONYA RAVINDRANATH WADDELL

Fifth District economic conditions weakened over the second quarter of 2008 as employment activity dropped, the housing market contracted further, and mortgage delinquency and foreclosure rates rose. Nonetheless, in most indicators, the Fifth District continued to outperform the nation.

Labor Markets Soften

Although Fifth District labor markets stagnated somewhat in the second quarter, they performed above the nation. Payroll employment was flat in the second quarter as employers reported a net gain of 300 jobs (0.0 percent). Over the same period, the nation shed 218,000 jobs for a 0.2 percent payroll decline. Since the second quarter of 2007, the Fifth District noted 0.8 percent payroll growth while national employment grew 0.1 percent. Over the year, employment gains were particularly solid in education and health services (3.1 percent), leisure and hospitality (2.0 percent), government (1.5 percent), and professional and business services (1.4 percent). The steepest losses were in the goods-producing industries as manufacturing shed 27,600 jobs (2.2 percent) and mining and construction shed 13,600 jobs (1.6 percent), most of which were in construction.

The Richmond Fed's service and manufacturing sector surveys reported a weakening in employment as more firms noted reductions in hiring activity. Contacts in retail reported the steepest contraction in employment in recent months. Further evidence of weakness in Fifth District labor markets can be seen in the 0.5 percentage point rise in the unemployment rate over the second quarter. Still, at 4.9 percent, the jobless rate remained below the national mark of 5.3 percent.

Housing Market Conditions Weaken Slightly

Recent assessments of the Fifth District housing market indicated some weakening in the second quarter. New residential construction fell off as residential permitting activity and housing starts declined in the quarter. Permit levels dropped 0.5 percent over the second quarter and 33.3 percent over the preceding year. Meanwhile, at the national level, permitting activity rose 27.0 percent in the second quarter, after three months of decline, and fell 28.8 percent over the year. Although second-quarter permit levels grew in the District of Columbia, Maryland, and South Carolina, all jurisdictions in the Fifth District have seen continued year-over-year declines in

permitting activity for at least two years. Overall, Fifth District housing starts also fell 9.1 percent in the second quarter and 28.2 percent over the preceding year.

Some weakening in Fifth District housing activity was also evident in reports on home sales and house prices. Existing home sales fell 4.6 percent in the second quarter and 23.1 percent over the year. House prices grew 0.5 percent in the second quarter after a 0.1 percent decline in the previous quarter. District house prices, therefore, outperformed national prices, which fell 1.4 percent in the quarter.

Half of the jurisdictions in the Fifth District saw a decline, as District of Columbia house prices fell 1.8 percent, Maryland prices fell 2.2 percent, and Virginia prices fell 1.9 percent. On the other hand, North Carolina house prices rose 0.6 percent, South Carolina prices rose 0.4 percent, and West Virginia prices rose 0.7 percent.

Mortgage Delinquency and Foreclosure Rates Rise

Most measures of conventional and subprime mortgage delinquency and foreclosure in the Fifth District hit record or near-record highs in the second quarter.

Nonetheless, rates remained below those at the national level. Mortgage delinquencies in the Fifth District rose to 5.8 percent over the quarter as both conventional and subprime mortgages hit record-high delinquency rates at 3.5 percent and 19.3 percent, respectively.

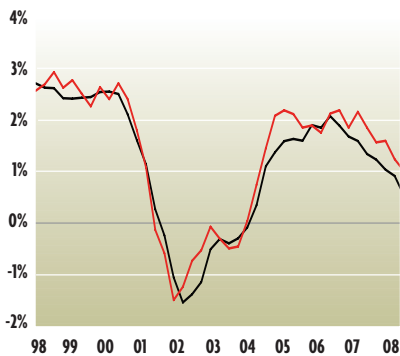
The subprime delinquency rate was higher than the 18.2 percent national mark, although overall delinquencies and conventional mortgage delinquencies in the United States outpaced Fifth District rates. The District foreclosure rate hit a record-high 0.7 percent in the second quarter although it, too, was lower than the 1.1 percent U.S. foreclosure rate.

Economic Indicators

	2nd Qtr. 2008	1st Qtr. 2008	Percent Change (Year Ago)
Nonfarm Employment (000)			
Fifth District	14,005	14,005	0.8
U.S.	137,699	137,917	0.1
Real Personal Income (\$bil)			
Fifth District	956.9	948.3	1.4
U.S.	9,995.0	9,920.8	1.5
Building Permits (000)			
Fifth District	35.9	36.1	-33.3
U.S.	287.9	226.7	-28.8
Unemployment Rate (%)			
Fifth District	4.9%	4.4%	
U.S.	5.3%	4.9%	

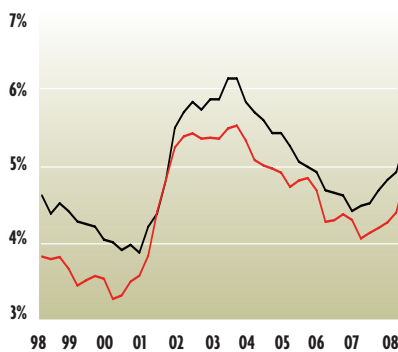
Nonfarm Employment

Change From Prior Year
First Quarter 1998 - Second Quarter 2008



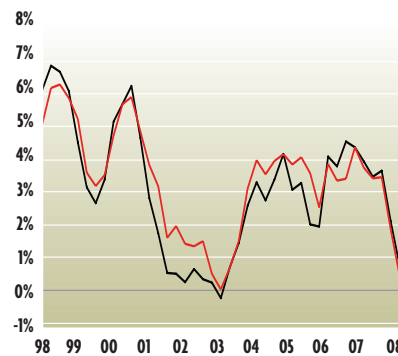
Unemployment Rate

First Quarter 1998 - Second Quarter 2008



Real Personal Income

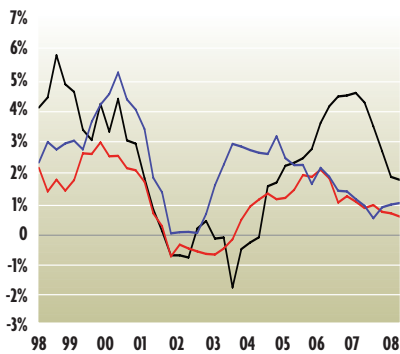
Change From Prior Year
First Quarter 1998 - Second Quarter 2008



— Fifth District — United States

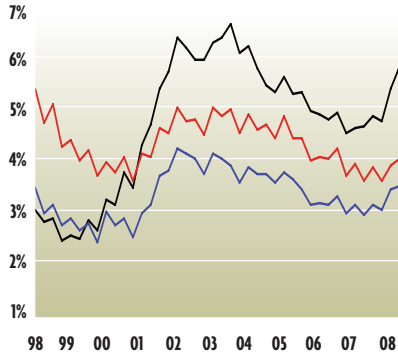
Nonfarm Employment Metropolitan Areas

Change From Prior Year
First Quarter 1998 - Second Quarter 2008



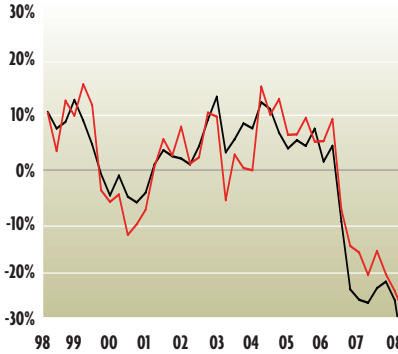
Unemployment Rate Metropolitan Areas

Change From Prior Year
First Quarter 1998 - Second Quarter 2008



Building Permits

Change From Prior Year
First Quarter 1998 - Second Quarter 2008



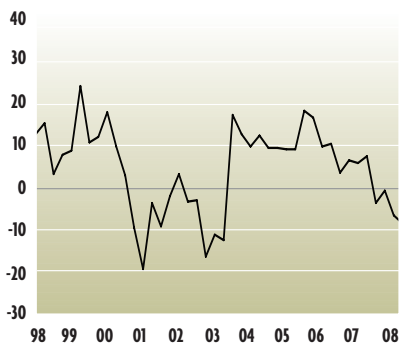
— Charlotte — Baltimore — Washington

— Charlotte — Baltimore — Washington

— Fifth District — United States

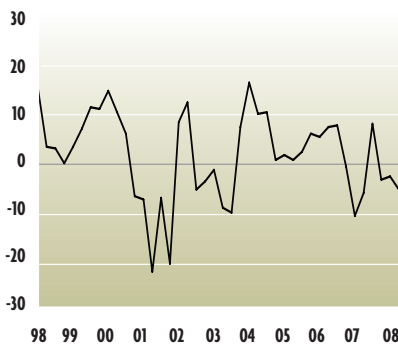
FRB—Richmond Services Revenues Index

First Quarter 1998 - Second Quarter 2008



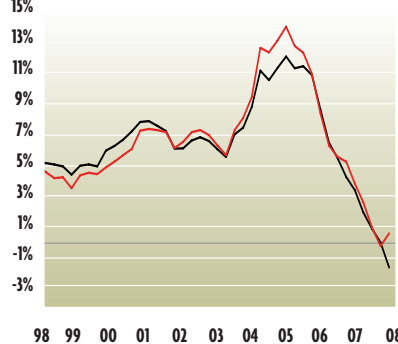
FRB—Richmond Manufacturing Composite Index

First Quarter 1998 - Second Quarter 2008



House Prices

Change From Prior Year
First Quarter 1998 - Second Quarter 2008



— Fifth District — United States

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, building permits, and house prices are not seasonally adjusted (nsa); all other series are seasonally adjusted.

SOURCES:

Real Personal Income: Bureau of Economic Analysis/Haver Analytics.
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: Federal Housing Finance Agency, <http://www.ofheo.gov>.

For more information, contact Sonya Ravindranath Waddell at (804) 697-2694 or e-mail sonya.waddell@rich.frb.org

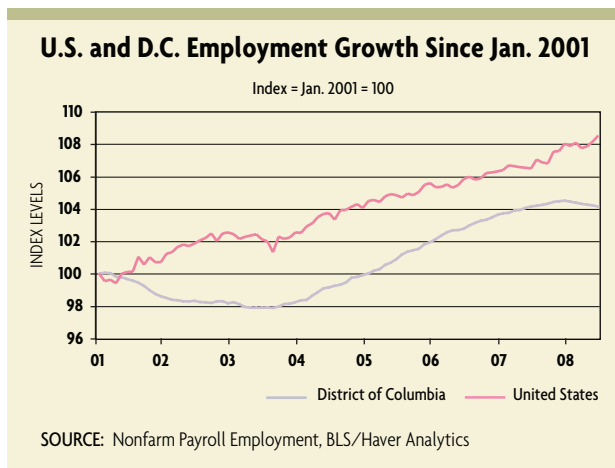
STATE ECONOMIC CONDITIONS

BY SONYA RAVINDRANATH WADDELL



District of Columbia

Economic conditions in the District of Columbia were mixed in the second quarter of 2008. Conditions in the labor market varied as payroll employment grew, but the unemployment rate edged up. Meanwhile, despite the continued drop in house prices, new residential construction picked up in the second quarter. High mortgage delinquency and foreclosure rates remained a drag on households.



Recent assessments of the District of Columbia labor market varied. On the one hand, payroll employment grew 0.2 percent in the second quarter as firms added 1,700 jobs to the economy. In addition, the 10,100 net job gain since the second quarter of 2007 was the largest year-over-year payroll addition since the first quarter of 2005. On the other hand, the unemployment rate ticked up to 6.3 percent from 6.1 percent in the first quarter — its highest mark since the third quarter of 2005. In addition, the jobless rate was above the national rate (5.3 percent) and ranked the highest of all Fifth District jurisdictions.

Housing market conditions in the District of Columbia were similarly mixed in the second quarter. House prices — as measured by the House Price Index — fell 1.8 percent in the second quarter, after dropping 1.9 percent in the first quarter and 0.8 percent in the final quarter of 2007. This was the first time since 1993 that house prices depreciated for three consecutive quarters. In addition, the pace of existing home sales fell 5.3 percent for the fifth straight quarter of decline. Nonetheless, new residential construction seemed to pick up in the second quarter as both permit levels and housing starts grew after two quarters of decline.

The contraction in house prices affected mortgage delinquency and foreclosure rates in the jurisdiction, which

increased across the board. The percentage of mortgages with payments past due rose to 5.1 percent in the second quarter, pushed up by increases in the percentage of mortgages with payments more than 90 days past due, which jumped to 1.3 percent — the highest rate since the third quarter of 1988. Meanwhile, the foreclosure rate jumped to its highest rate in almost a decade (0.7 percent). Still, real personal income grew 0.4 percent for the second quarter in a row and per-capita personal income grew 0.3 percent to end the quarter at \$52,780 per person.

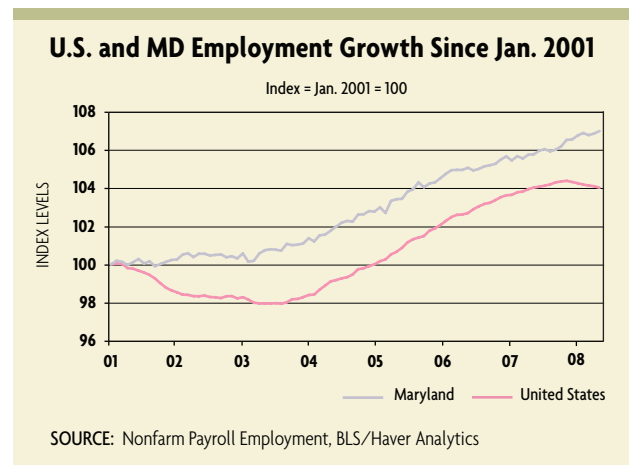


Maryland

The Maryland economy showed signs of slowing in the second quarter of 2008. The housing market softened further with depreciating house prices and declining home sales. In addition, households were hurt by a jump in unemployment and continued rises in mortgage delinquency and foreclosure rates.

Conflicting reports from the two employment surveys provided a mixed picture for Maryland's labor market. The state added 3,500 jobs (0.1 percent) to its economy in the second quarter. Job growth was entirely in the service sector with the education and health services and government sectors posting the most significant gains of 3,200 jobs and 3,500 jobs, respectively. Meanwhile, the unemployment rate grew to 3.9 percent — a 0.4 percentage point jump from the first quarter. The second quarter marked the largest increase in the number of unemployed persons in the state (11,400) since the first quarter of 1992.

The housing market in Maryland showed clear signs of weakening. House prices fell 2.2 percent in the second quarter for the largest drop since the second quarter of 1982. The drop in house prices over the past year (4.0 percent)

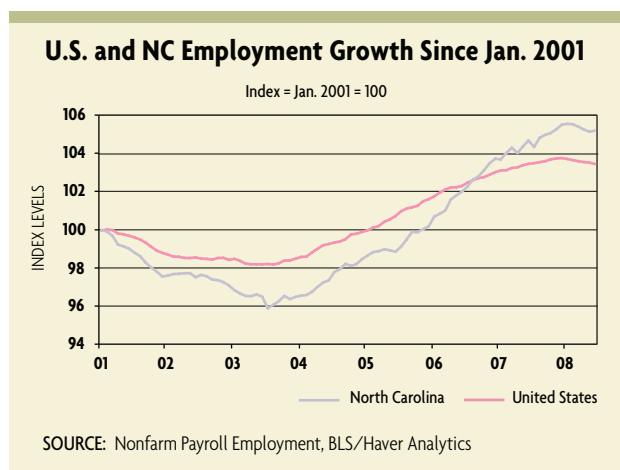


marked the steepest year-over-year drop in the history of the series. In addition, existing home sales fell 5.3 percent in the second quarter. Although residential permitting activity grew 6.7 percent over the quarter, housing starts dropped 2.5 percent.

Softening in the housing market was reflected in increased mortgage delinquencies, which at 6.1 percent hit their highest rate since the third quarter of 2001. More starkly, the percentage of mortgage payments more than 90 days past due was at a historic high (1.8 percent) in the second quarter. The percentage of seriously delinquent mortgages (either more than 90 days past due or in foreclosure) also hit a record of 3.5 percent. Nonetheless, Maryland households were sustained by 0.4 percent growth in both real personal income and per-capita income in the second quarter.

North Carolina

The economy of North Carolina lost some traction in the second quarter of 2008. The labor market contracted as the economy shed jobs and unemployment shot up. Real estate conditions softened as new residential construction fell off, as did the pace of existing home sales. Meanwhile, mortgage delinquency and foreclosure rates continued to rise.



The labor market in North Carolina contracted in the second quarter. Payroll employment fell 0.3 percent as the state shed 13,100 jobs. All sectors of the economy shed workers except for the education and health services sector and the leisure and hospitality sector. The biggest losses were in manufacturing (8,000 jobs); trade, transportation, and utilities (5,800 jobs); and professional and business services (4,400 jobs). The second-quarter unemployment

rate jumped 0.7 percentage point to 5.7 percent for the highest joblessness in the Tarheel State since the first quarter of 2004.

Conditions in the North Carolina housing market also weakened in the second quarter. New residential construction dropped off as permitting activity fell 3.5 percent and housing starts dropped 12.0 percent. This quarter marked the steepest year-over-year decline in permitting activity (32.7 percent) since the fourth quarter of 1981 and the steepest year-over-year decrease in housing starts (27.8 percent) since the first quarter of 1982. In addition, the pace of existing home sales fell 9.7 percent for the fifth straight quarter of decline. Although house prices rose 0.6 percent in the second quarter, it marked the smallest quarterly growth since the third quarter of 2003.

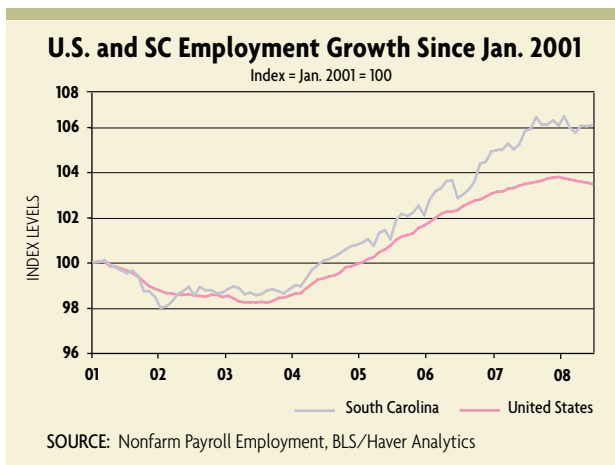
Mortgage delinquency rates also rose in the second quarter, illustrating heightened challenges facing North Carolina households. The mortgage delinquency rate jumped to 6.2 percent for the largest recorded second-quarter delinquency rate in the state. The delinquency rate on mortgages with payments more than 90 days past due hit a record high of 1.5 percent. Still, household balance sheets were buttressed by 1.3 percent growth in real personal income, and 0.7 percent growth in per-capita income. Per-capita income in North Carolina ended the second quarter of 2008 at \$28,471 per person.

South Carolina

Recent assessments of the South Carolina economy were mixed. The housing market advanced at a reasonable pace, with a slow appreciation of house prices and some growth in new residential construction. Nonetheless, payroll employment stagnated, the unemployment rate edged up further, and high mortgage delinquency and foreclosure rates remained a cause for concern.

South Carolina labor markets softened in recent months. Payrolls were virtually stagnant as the state shed 100 jobs in the second quarter. The biggest losses were in the construction and manufacturing sectors that shed 8,400 jobs and 3,000 jobs, respectively. Offsetting these losses, the biggest gains in employment were in the leisure and hospitality, and government sectors, which added 4,700 and 4,800 jobs, respectively. The unemployment rate was 6.2 percent in the second quarter — up from 5.8 percent in the first quarter and above the national 5.3 percent mark.

The housing market improved at a measured pace in the second quarter of 2008. House prices appreciated 0.4 percent in the second quarter and 3.3 percent over the year. Residential permitting activity grew 14.2 percent after three



quarters of decline. Housing starts increased 4.7 percent in the quarter. Still, existing home sales were down 8.5 percent in the quarter and 23.9 percent over the year — the steepest year-over-year drop since the fourth quarter of 1989.

Despite the firming of housing conditions, the mortgage delinquency rate rose to 6.4 percent of all mortgages in the second quarter — the highest second-quarter delinquency rate since 2003. In addition, the percentage of mortgages with payments more than 90 days past due hit a record high of 1.5 percent in the second quarter. Furthermore, the foreclosure rate moved up to 0.8 percent — one of the highest rates ever seen in South Carolina. Nonetheless, household finances were buoyed by a 1.5 percent increase in real personal income — the steepest increase of all District jurisdictions. In addition, per-capita personal income rose 1.0 percent to end the quarter at \$32,159 per person.

Virginia

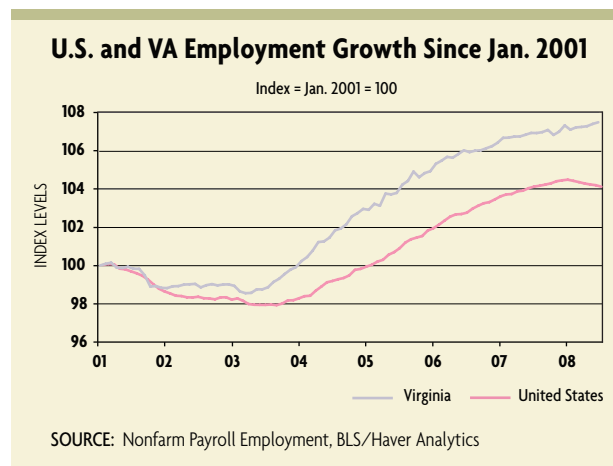
The Virginia economy exhibited some mixed conditions in the second quarter of 2008. Labor market indicators varied and, although the housing market generally struggled, existing home sales increased.

The two employment surveys provided a mixed picture for the Virginia labor market. State firms added 6,800 jobs to the economy in the second quarter, for 0.2 percent payroll growth. Only three industries reported employment declines: construction (1,300 jobs); trade, transportation, and utilities (1,300 jobs); and leisure and hospitality (3,100 jobs). Nonetheless, unemployment edged up 0.3 percentage point to 3.8 percent in the quarter.

The housing market remained soft in the second quarter of 2008. House prices declined 1.9 percent for the fourth consecutive quarter with the largest drop in prices since the third quarter of 1982. In addition, since the second quarter

of 2007, house prices fell 2.6 percent — the largest year-over-year decline on record. Residential permit levels were also down 10.9 percent in the second quarter while housing starts fell 8.6 percent. Existing home sales, however, rose 10.5 percent over the quarter, although sales still declined 8.1 percent over the year.

The weakening housing market appeared to take its toll on households as mortgage delinquencies rose to 4.9 percent — its highest mark since the fourth quarter of 2001. The percentage of mortgages with payments more than 90 days past due reached a record high of 1.3 percent, as did the foreclosure rate at 0.7 percent. Nonetheless, households were sustained by a growth in real personal income of 0.6 percent in the second quarter. Per-capita income also rose 0.4 percent to end the quarter at \$35,305 per person.



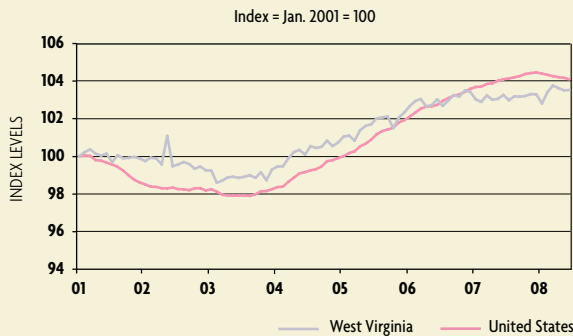
West Virginia

Economic conditions in West Virginia were generally downbeat in the second quarter of 2008. Despite a slight appreciation in house prices, the housing market softened. Meanwhile, the unemployment rate jumped up while mortgage delinquency and foreclosure rates continued to rise.

The business and household surveys offered contradictory reports on the labor market. Payroll employment grew 0.2 percent (1,600 jobs) over the second quarter and 0.4 percent (3,100 jobs) over the year. Meanwhile, however, the unemployment rate grew 0.6 percentage point to end the quarter at 5.2 percent. West Virginia added 5,300 people to the ranks of unemployed in the second quarter — the steepest quarterly increase since the first quarter of 1983.

The housing market lost some traction in recent months, although house prices held up better than in other parts of the Fifth District and the country. Residential permitting activity continued its decline in the second quarter, falling

U.S. and WV Employment Growth Since Jan. 2001



SOURCE: Nonfarm Payroll Employment, BLS/Haver Analytics

1.2 percent, while housing starts contracted 32.0 percent. Existing home sales, meanwhile, dropped 12.2 percent for the largest decline since the last quarter of 1999. Nonetheless, the House Price Index grew 0.7 percent in the second quarter for the fourth straight quarter of house price appreciation.

In addition to troubles in the housing market, mortgage delinquencies continued to rise. The mortgage delinquency rate was 7.3 percent in the second quarter — the highest rate in the Fifth District. The delinquency rate on mortgages with payments more than 90 days past due hit its highest second-quarter mark on record (1.6 percent), as did the foreclosure rate (0.7 percent). Still, both real personal income and per-capita income rose 1.3 percent in the second quarter. Per-capita income ended the quarter at \$25,319 per person.

RF

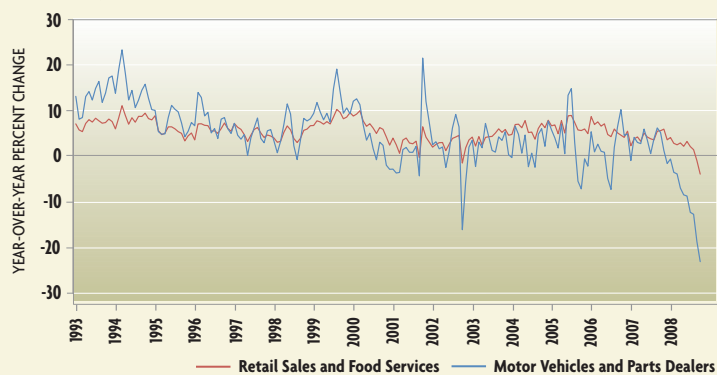
Behind the Numbers: Retail Sales

Headlines across the United States have been reporting the end of consumer spending as we know it — or, at least, as we have known it. According to the most recent Census Bureau data, U.S. retail sales and food services fell 2.8 percent in October for a record 4.1 percent drop since October 2007. The other oft-cited retail sales data, the International Council of Shopping Centers (ICSC)-Goldman Sachs index reported a 0.9 percent decline in retail sales over the year ending in October 2008 — the steepest year-over-year decline in an October over the 39-year history of the index.

The two surveys sample different populations using different methodology. The ICSC-Goldman Sachs index covers comparable store sales at major chains around the country and accounts for more than 10,000 individual stores. The Census data use a stratified random sampling method to select about 5,000 retail and food services firms whose sales are weighted and benchmarked to represent the complete universe of more than 3 million retail and food services firms. One significant difference between the two surveys is that the ICSC-Goldman Sachs measure excludes both restaurant and vehicle demand, which are included in the Census measure.

In fact, a measurable portion of the slump in retail sales and food services reported by the Census in the past two months came from sales of motor vehicles and auto parts, which dropped 5.5 percent in October and 23.4 percent over the year. Excluding the vehicles and parts dealers, retail and

Monthly Retail Sales and Food Services



SOURCE: Department of Commerce, Bureau of the Census/Haver Analytics (seasonally adjusted data)

food services sales still declined 2.2 percent in October, but moved up 1.0 percent over the year. Sales of other big-ticket items also pulled down overall retail sales; for example, sales of furniture, home furnishings, and electronics all together dropped 2.4 percent over the month and 9.7 percent over the year.

Retail sales in the Fifth District were also sluggish in October, according to Richmond Fed survey reports. The index for sales revenues — which is equal to the percentage of the 105 responding firms that reported an increase in revenues minus the percentage that reported a decrease — was -18 in October. Meanwhile, the index for big-ticket sales was -36 and the index for shopper traffic was -32. All three of these indexes, however, have been moving around in negative territory for at least 10 months.

— SONYA RAVINDRANATH WADDELL

State Data, Q2:08

	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000's)	702.5	2,633.8	4,174.1	1,957.8	3,776.9	759.9
Q/Q Percent Change	0.2	0.1	-0.3	0.0	0.2	0.2
Y/Y Percent Change	1.5	1.1	0.9	0.7	0.5	0.4
Manufacturing Employment (000's)	1.6	128.7	523.4	246.7	275.6	57.5
Q/Q Percent Change	2.1	-1.6	-1.5	-0.4	0.9	-0.7
Y/Y Percent Change	-3.9	-2.5	-2.6	-1.7	-1.6	-3.0
Professional/Business Services Employment (000's)	155.6	403.4	503.7	229.8	651.3	62.0
Q/Q Percent Change	-0.3	0.2	-0.9	2.7	0.4	1.1
Y/Y Percent Change	1.0	2.0	1.1	1.5	1.2	2.0
Government Employment (000's)	233.3	485.8	702.0	345.8	694.4	146.0
Q/Q Percent Change	0.0	0.7	-0.1	1.4	0.4	0.7
Y/Y Percent Change	1.0	1.6	1.2	2.9	1.5	0.4
Civilian Labor Force (000's)	330.9	3,011.3	4,559.4	2,144.3	4,122.1	815.8
Q/Q Percent Change	-0.1	0.6	0.4	0.3	0.6	0.4
Y/Y Percent Change	1.8	1.3	0.9	0.7	1.9	0.9
Unemployment Rate (%)	6.3	3.9	5.7	6.2	3.8	5.2
Q1:08	6.1	3.5	5.0	5.8	3.5	4.6
Q2:07	5.7	3.5	4.7	5.7	3.0	4.5
Real Personal Income (\$Mil)	31,129.8	224,104.3	262,754.1	118,449.8	274,495.2	45,943.4
Q/Q Percent Change	0.4	0.4	1.3	1.5	0.6	1.3
Y/Y Percent Change	2.2	0.6	1.7	2.2	1.1	2.2
Building Permits	189	3,909	15,559	8,066	7,344	839
Q/Q Percent Change	23.5	6.7	-3.5	14.2	-10.9	-1.2
Y/Y Percent Change	-62.3	-37.8	-32.7	-32.9	-32.0	-27.5
House Price Index (1980=100)	634.5	518.5	348.6	330.2	463.1	238.1
Q/Q Percent Change	-1.8	-2.2	0.6	0.4	-1.9	0.7
Y/Y Percent Change	-3.4	-4.0	3.6	3.3	-2.6	3.4
Sales of Existing Housing Units (000's)	7.2	64.4	164.0	86.4	113.2	26.0
Q/Q Percent Change	-5.3	-5.3	-9.7	-8.5	-10.5	-12.2
Y/Y Percent Change	-28.0	-30.0	-29.1	-23.9	-8.1	-13.3

NOTES:

Nonfarm Payroll Employment, thousands of jobs, seasonally adjusted (SA) except in MSAs; Bureau of Labor Statistics (BLS)/Haver Analytics. Manufacturing Employment, thousands of jobs, SA in all but DC and SC; BLS/Haver Analytics. Professional/Business Services Employment, thousands of jobs, SA in all but SC; BLS/Haver Analytics. Government Employment, thousands of jobs, SA; BLS/Haver Analytics. Civilian Labor Force, thousands of persons, SA; BLS/Haver Analytics. Unemployment Rate, percent, SA except in MSAs; BLS/Haver Analytics. Building Permits, number of permits, NSA; U.S. Census Bureau/Haver Analytics. Sales of Existing Housing Units, thousands of units, SA; National Association of Realtors®

Metropolitan Area Data, Q2:08

	Washington, DC MSA	Baltimore, MD MSA	Charlotte, NC MSA
Nonfarm Employment (000's)	2,446.1	1,332.3	876.5
Q/Q Percent Change	1.5	1.9	1.7
Y/Y Percent Change	1.1	0.6	1.9
Unemployment Rate (%)	3.5	4.0	5.8
Q1:08	3.4	3.9	5.4
Q2:07	2.9	3.6	4.6
Building Permits	3,705	1,252	3,897
Q/Q Percent Change	-15.6	1.6	8.8
Y/Y Percent Change	-49.3	-23.8	-38.3
	Raleigh, NC MSA	Charleston, SC MSA	Columbia, SC MSA
Nonfarm Employment (000's)	531.4	303.3	370.9
Q/Q Percent Change	1.7	1.8	0.6
Y/Y Percent Change	3.3	0.8	0.9
Unemployment Rate (%)	4.5	4.8	5.3
Q1:08	4.1	4.7	5.1
Q2:07	3.5	4.1	4.8
Building Permits	3,170	1,309	1,252
Q/Q Percent Change	1.7	-1.8	20.8
Y/Y Percent Change	-24.8	-40.4	-45.9
	Norfolk, VA MSA	Richmond, VA MSA	Charleston, WV MSA
Nonfarm Employment (000)	790.9	641.1	151.5
Q/Q Percent Change	3.0	1.6	1.6
Y/Y Percent Change	1.3	0.9	0.0
Unemployment Rate (%)	3.9	4.0	4.5
Q1:08	4.1	3.9	4.6
Q2:07	3.0	2.9	4.1
Building Permits	1,733	1,185	56
Q/Q Percent Change	27.1	-29.1	43.6
Y/Y Percent Change	10.1	-44.5	-20.0

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Why the Great Depression Matters

BY STEPHEN SLIVINSKI

Economic analysis is, at its core, a form of storytelling. When you strip away the math and the jargon, what you're left with is a tale about how people respond to the world around them and how their actions influence everything else. And economists do indeed have a variety of stories they like to tell. Yet the one that seems to be told most — and nowadays with increasing frequency — is the one about the Great Depression.

This story, while consisting of the same basic facts, can have a different tone depending upon who tells it. Some say that between 1929 and 1933, a sudden decline in expectations about the future of economic growth led to a collapse in consumer and investor demand that could not be quickly corrected by the market.

This school of thought suggests that government policy provides a way around this shortcoming. The policies that supporters of this thesis propose are aimed at increasing weak demand in a variety of ways, particularly through government spending and employment programs. This would serve, in the former case, to prop up demand and, in the latter, prop up employment and wages.

A competing explanation comes from the neoclassical school of thought. Proponents of this view argue that what the economy really suffered from wasn't an inherent weakness. Instead, it was impaired by the shock of policy missteps, particularly those of the Federal Reserve which severely contracted the money supply and choked off economic activity. The neoclassical economists think that over time the economy can right itself in the absence of shocks without widespread government direction. Instead, the remedy is to reverse the misguided policies that weigh the economy down.

Both schools acknowledge that policy has the power to shape economic growth. Yet the forms those policies take are important. Those that are aimed at "fixing" a perceived shortcoming of the market are by nature intended to keep the market from the opportunity to correct itself on its own. Still other policies can be geared to helping the market correct itself by assisting the mechanisms of self-correction. This could include the lowering of barriers to competition.

So, one way to arbitrate this dispute would be to determine whether the activist fixes succeeded in helping achieve a higher growth path for the economy. That begs a question: Why did the Great Depression last as long as it did? After all, by 1939 — 10 years after the start of the downturn — employment and output were well below their 1929 levels.

The best example of this line of inquiry is the work of economists Harold Cole and Lee Ohanian, both of the University of California at Los Angeles. They start by looking at some fundamental economic data.

For instance, the ability of the economy to produce goods more efficiently — illustrated by the substantial increase in "productivity" after 1933 — should have increased economic output midway through the decade. But it didn't. Wages and prices should have gone down as a result of the reduced output, but that didn't happen either. "These data contrast sharply with neoclassical theory, which predicts a strong recovery [from the Great Depression] with low real wages," write Cole and Ohanian in their 2004 article in the *Journal of Political Economy*.

They suggest that what was hindering the labor adjustment process was President Roosevelt's New Deal labor and

industrial policies. The National Industrial Recovery Act of 1933 (NIRA) actually had the effect of limiting entry of competitors into the market, mainly in manufacturing. It also allowed incumbent firms to set minimum prices in exchange for raising worker wages. When the Supreme Court ruled that the NIRA was unconstitutional in 1935, the National Labor Relations Act of that year carried

Perhaps the most important lesson to take from the Great Depression is that policymakers should follow the Hippocratic Oath: First, do no harm.

on several of the NIRA goals directed at limiting competition in the labor market and, consequently, inflating wages. So, in short, the New Deal policies artificially inflated prices and wages. That kept the market's self-correcting forces from working and made it tougher for the economy to recover from the Great Depression.

While there is still debate about whether this is a robust explanation of what prolonged the Great Depression, it helps us understand the assumptions economists use when they describe the Great Depression. Those who argue that federal policies during that era helped bring the United States out of the economic doldrums have to assume that policymakers, all of whom are fallible and under pressure from a variety of interest groups, were able or willing to craft sensible policy under economic and political duress. This is a tall order, even for the best-intentioned policymaker.

So, perhaps the most important lesson to take from all the competing renditions of the Great Depression story is that policymakers should follow the Hippocratic Oath: First, do no harm. And more often than not, that means avoiding the temptation to intervene and, thus, intruding on the market's self-correction mechanisms. **RF**

The Economics of Corporate Bankruptcy

An important aspect of capitalism is the restructuring or closing of troubled businesses. Yet it's important to distinguish between firms that are merely financially distressed and those that are no longer viable. Bankruptcy law has arisen in the United States to provide an orderly process of allowing courts to make these distinctions. We'll examine the costs and benefits of the current corporate bankruptcy system and discuss how the creative destruction that is so vital to economic growth is hindered or aided by these institutions.

Minor League Ballparks

Since 2005, five minor league ballparks have been built in the Fifth District. There are proposals to build others in North Carolina, Virginia, and Maryland. We'll consider the economics of these facilities. Should they receive subsidies? Do they promote economic growth? And, financially, how do they differ from major league stadiums?

The Future of Media in Rural Communities

Newspapers, particularly those in rural areas, are generally shrinking in size and coverage, and some are even going out of business. Other media outlets, including the Internet and public radio, have picked up some of the slack. We'll explore the new business model for gathering information and how that is affecting the way rural communities get their news.

Federal Reserve

We'll chronicle the history of the Fed's role as the lender of last resort.

Jargon Alert

Everyone has heard the term "national debt" used by economists, policymakers, and journalists. But what exactly is included in that measurement and what isn't?

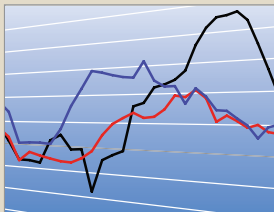
Interview

We talk to George Selgin, of West Virginia University and a proponent of "free banking," about what the world would be like if the Federal Reserve didn't control the money supply.

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