Making Monetary Policy:
What Do We Know and When Do We Know It?

Based on a speech given by President Santomero to the National Economists Club, April 7, 2005

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Conducting a successful monetary policy presents real-world challenges, such as evaluating where the economy is, where it is going, and where it should be going. But how do monetary policymakers make decisions about the economy in a world with imperfect information? In his message this quarter, President Anthony Santomero discusses how policymaking is affected by both the availability and reliability of economic information.

I'd like to take this opportunity to share my thoughts on the difficult task of conducting monetary policy for the U.S. In particular, I would like to focus on how policymaking is affected by both the availability and reliability of information on how well the economy is performing. I want to emphasize that my message this quarter reflects my own thoughts on the subject and does not necessarily reflect the views of the Federal Open Market Committee.

We all know that monetary policy responds to economic circumstances and hence to incoming economic data. Therefore, it is important every once in a while to take a closer look at what we know about the data we rely on and, simultaneously, what we do not know about the economy from the information that is available.

However, this is more than a philosophical discussion; after all is said and done, we must conduct monetary policy. So I would like to focus on what conducting real-time monetary policy is like in a world with less-than-perfect information about the economy we are attempting to affect.

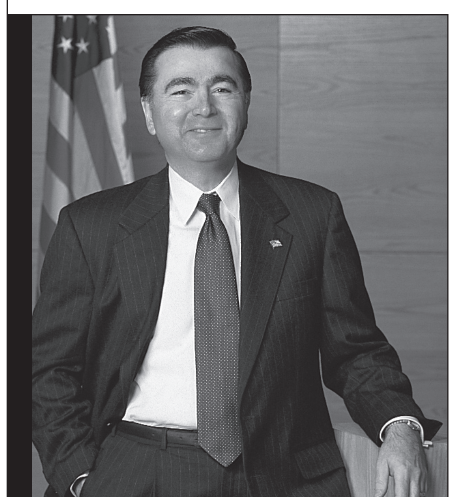
At the outset, I want to reinforce my view that appropriate monetary policymaking requires attention to long-run goals, not just short-term dynamics. Or to state it another way, our short-run actions must take account of our long-run objectives if we are to be prudent and successful central bankers.

The most important long-run goal of good monetary policy is straightforward enough: a responsible central bank must guarantee price stability. Price stability is crucial to a well-functioning market economy. Prices are signals to market participants. A stable overall price level allows people to see shifts in relative prices clearly and adjust their decisions about spending, saving, working, and investing optimally. Inflation, by contrast, jumbles and distorts price signals and generates suboptimal economic decisions.

For the past 25 years, the Fed has been relatively successful in achieving the goal of price stability. Equally important, as the relatively low level of market interest rates attests, we have succeeded in reducing long-run inflation expectations over the past 15 years.

Maintaining confidence in sustained price stability is crucial to fostering the most productive saving and investment decisions. In addition, it affords the Federal Reserve considerably more latitude to take short-run policy actions to help stabilize economic performance.

As you all know, the Federal Reserve is charged with setting monetary policy so as to meet its dual mandate of maintaining price stability and ensuring maximum sustainable output growth. When the economy is weak, monetary policy generally needs to be accommodative, and when the economy is growing strongly, policy needs to be tighter. In this way policy remains consistent with underlying



Anthony M. Santomero, President, Federal Reserve Bank of Philadelphia economic fundamentals. It is entirely appropriate and consistent with our long-term goals for monetary policy to be countercyclical as long as we remain cognizant of the inflationary environment.

But we must all recognize that a central bank's power is limited. One thing we have learned — and it has been an expensive lesson — is that the best the Fed can do is cushion the economy. It cannot in and of itself force stronger growth than the economy is capable of delivering. Trying to push an economy beyond its potential may temporarily accelerate growth, but it also creates imbalances and increases inflationary pressures that must be addressed, and so boom leads to bust.

I believe that the Fed's policy over the past 25 years has demonstrated both its commitment to, and the value of, a stable price environment. Looking ahead, I am confident the Fed will take policy actions consistent with economic fundamentals and keep its focus on the long-run objectives.

That said, I do not deny that conducting a successful monetary policy presents plenty of real-world challenges. It requires an evaluation of where the economy is, where it is going, and where it should be going. Therefore, the appropriate conduct of real-time monetary policy requires policymakers to gauge how strong or weak the economy is at any moment in time, what its most likely trajectory appears to be, and how that trajectory aligns with its long-run potential.

This requires a detailed appraisal of data and, importantly, of real-time data on the current state of the economy. Unfortunately, these data often give very noisy signals of what is really going on.

WHERE DO WE WANT THE ECONOMY TO GO?

So where does one start? A policymaker must first assess where he or she wants the economy to go. For the U.S. central bank, the goals of monetary policy have been made explicit in relevant legislation. The Federal Reserve is to maintain price stability and ensure maximum sustainable output growth.

The first challenge is to quantify each of these important objectives: What is the highest growth rate for output that is sustainable? What rate of unemployment represents full utilization of labor? What rate of inflation represents price stability? These are tremendously difficult concepts to pin down. Economists have taken many different approaches to establishing numerical guideposts for economic performance, but, as I will illustrate, these guideposts are very difficult to estimate in practice.

POTENTIAL OUTPUT

There is general agreement in macroeconomics that the relevant measure of real activity for policymaking is the so-called "output gap" between the level of actual output and an underlying level of potential output. This gap is important in that it not only provides an output objective, but it also provides information about possible future inflationary pressures. If the economy were to grow faster than the growth in potential output for a sustained period of time, inflation would be expected to accelerate over time. By contrast, economic growth slower than potential would lead to less than full employment.

But what is this level of potential gross domestic product (GDP), and how fast does it grow? Recent theoretical work suggests that this notional benchmark should be the level of output that occurs when all wages and prices are flexible and the economy fully adjusts to balance supply and demand in all markets. This is a reasonable concept, but since not all wages and prices are flexible, this output level cannot be observed directly. So in practice, this level of potential output is impossible to measure.

As a practical alternative, potential output is commonly interpreted to be the trend level of output. Unfortunately, there are many different ways to estimate trend output, each with its own set of issues. Sometimes these estimates have strikingly different implications for monetary policy.

One reason that measures of potential GDP are difficult to estimate is that many factors — demographic and technological among them — affect potential output in any given period. So, potential output changes over time and can only be roughly estimated given current conditions.

For example, the "tech boom" of the 1990s, whose effects are still being analyzed today, has played a key role in determining U.S. potential output. However, the exact extent of the upward shift it caused in potential GDP is still uncertain. As we all know, the technological revolution's effect on the economy is still widely debated. Different interpretations of its effects lead to different estimates of potential GDP.

So with these difficulties in mind, how accurate have our estimates of potential GDP been? According to many researchers both inside and outside of the Federal Reserve, the accuracy of contemporaneous measures of potential GDP is not encouraging. Comparing current estimates of the gap for the period from the mid-1960s to the mid-1990s, one Fed researcher finds that more recent measures of the output gap lie almost uniformly above the contemporaneous estimates: The real-time estimates of potential output over this period were systematically overly optimistic.[1] He points to the late 1960s

[1] See the article by Athanasios Orphanides and Simon van Norden.

as a particularly striking example. At the time, the data show that the gap between actual GDP and potential GDP was believed to be about zero. With the benefit of hindsight, almost any estimate now would place that gap at nearly five percentage points. Taken at face value, this divergence would imply that policymakers did not recognize the considerable upward inflationary pressure that the economy was subject to at that time.

NAIRU

Another construct that has found a place in countercyclical monetary policy is NAIRU, or the non-accelerating inflation rate of unemployment — the unemployment rate at which inflation remains constant. The NAIRU model predicts that when unemployment is below the NAIRU, there is pressure for the inflation rate to rise; on the other hand, when unemployment is above the NAIRU, there is pressure for inflation to fall.

This, too, is a reasonable concept. Unfortunately, academic research has shown that estimates of NAIRU are very imprecise and are subject to significant standard deviations. Work by other economists suggests that this imprecision exists in models where NAIRU is presumed constant and in models that allow NAIRU to vary over time as well. This conclusion also holds up when we use alternative series of unemployment and inflation. The Philadelphia Fed's Research Department estimated that the NAIRU was between 3.4 and 5.9 percent between 1983 and 2004 with a 95 percent confidence level. This is a fairly wide band of uncertainty.

The problem is that estimates with this level of imprecision are of limited use when conducting monetary policy. When policymakers are attempting to evaluate whether there is still slack in the labor market, or if any further decrease in unemployment may lead to inflationary pressures, it clearly would be preferable to have more precise estimates of NAIRU. For example, there are substantially different implications of a 5 percent unemployment rate if we believe NAIRU is 3.4 percent or if we believe NAIRU is 5.9 percent or even if it is at the midpoint of 4.7 percent.

PRICE STABILITY

The imprecision of our estimates goes beyond just real-sector economic statistics. Take, for example, price data. Price stability will be achieved, to paraphrase Federal Reserve Chairman Alan Greenspan, when inflation ceases to be a factor in the decision-making processes of businesses and individuals. While this is a reasonable definition, it provides neither an exact estimate of our inflation goal, nor does it state which measure of inflation is most germane.

In terms of the latter, the debate has two parts: First, which price index should be used? Second, which measure of that index best describes inflation in today's economy? The two indexes most often cited as relevant measures of inflation are the consumer price index, or CPI, and the chain price index for personal consumption expenditures, or the PCE price index. Which is more useful from a policymaker's perspective?

While the CPI and PCE are similar measures, they do vary in several important dimensions. One important difference is the scope of the spending they cover. The CPI is designed to approximate a typical consumer's cost of living and therefore covers direct out-of-pocket expenditures of households. PCE, on the other hand, is a broader index that includes some consumption that is government funded, such as Medicare and Medicaid, and some goods and services that are consumed without any explicit charge to the consumer.

Then there is the issue of whether to use a core measure of the chosen price index, that is, the price index excluding the food and energy sectors, or to use the headline number. The argument in favor of using a core price index is that the energy and food sectors have tended to be the more volatile components of either index and that large volatility in monthly data often disappears over time. Of course, if the time horizon over which one is measuring inflation is long enough, it should not matter whether volatile components are deleted, since the noise in these components dissipates over the long horizon. But with a shorter horizon, the core price index would give the best measure of underlying price movement. On the other hand, those who argue against using core price indexes believe that the volatile sectors are being systematically removed by using core measures and that these sectors may provide useful information about current and future price movement.

I mildly favor the core PCE deflator as my preferred measure of price inflation because it is a broader and more appropriate measure of underlying inflation than the CPI. Also, it is a chain-weighted index, and so it takes

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account of consumers' changing buying patterns as relative prices change. Therefore, to me, it reflects changes in the overall price level more accurately than the CPI, which is based on a fixed basket of goods and services. Using the core PCE also helps reduce the "noise" in the inflation signal, enhancing its value as a monitoring device.

IMPLICATIONS

Reading this, one might get the feeling that data problems loom so large in my mind that I have very little faith in – or use for – quantitative guideposts to economic performance. That would be taking my comments too far. These guideposts still contain important and relevant information for any policymaker. In fact, acknowledging their strengths and weaknesses enables one to better use these admittedly imprecise estimates more effectively.

For example, if we look at the errors in measuring the level of potential output and the output gap, we must recognize that these statistical problems can be large and important. However, if we look at the growth of output relative to trend growth we may find it a more reliable guidepost for policy evaluation because the errors in each may well be offsetting.

This approach to policy suggests that policymakers may be better off looking at the growth rate of output relative to the growth rate of trend output and striving to achieve growth in aggregate demand approximately equal to the expected growth in potential aggregate supply.

DETERMINING THE CURRENT STATE OF THE ECONOMY

Thus far, I have discussed the difficulties policymakers face in determining where the economy should be, but the challenge of assessing where the economy actually is I consider only slightly less daunting. In truth, current economic conditions are not easy to measure accurately in real time. We receive data only with a lag, and preliminary data are notoriously unreliable. In short, the data about the current state of the economy are constantly changing. History and recent events have shown these changes, at times, can be large.

Estimations and Imputations. At the heart of this problem is that data releases on the current state of the economy are often a collection of sampling, estimation, and imputation. We recognize the first of these — we do not count every item produced or every good sold — but the other issues surrounding the timely release of data have also proven to be quite important. There is a tradeoff here. To be timely, government agencies usually issue preliminary numbers before all the underlying information is available. Consequently, data available to policymakers concerning the current state of the economy are often based on estimations and imputations of data. As more complete information becomes available, agencies regularly revise their data series, and the revisions can be significant.

For example, the Bureau of Economic Analysis (BEA), the government agency that issues GDP data, releases its first report on the nation's GDP near the end of the month following the end of a quarter. That release is called the advance report. At the time of the advance report, the BEA does not have complete information, so it makes projections about certain components of GDP from incomplete source data. As time goes on, the source data become more complete. But it usually is not until the following year that better information, such as income-tax records and economic census data, is available. So the GDP data undergo a continual process of revision.

Benchmark Revisions. Once in a while we make substantial changes in addition to regular revisions of the data. About every five years, the government makes major changes, called benchmark revisions, to the data for the national income and product accounts. Benchmark revisions incorporate new sources of data and may also include changes in definitions of variables or changes in methodology. To be sure, these changes are necessary, in part because our economy is constantly changing: Different types of products enter the market and different accounting methods need to be used. But they can be disruptive.

For example, a major alteration undertaken in the 1999 benchmark revisions changed the way the BEA classifies computer software purchased by business and government. Prior to the revision, this type of spending was counted as an office expense. This was adjusted in 1999, and now this type of spending is counted as investment.

The most recent benchmark revision took place in 2003, and it incorporated several new pieces of information and more reliable source data and used a new price index in nonresidential construction that takes account of changes in quality. Again, these are important changes, but they disrupt what we know or thought we knew.

The Real-Time Data Set. At the Federal Reserve Bank of Philadelphia we take these data revisions very seriously. We have developed a data set that gives a snapshot of the macroeconomic data available at any given date in the past.[2] We call the information set available at a particular date a vintage, and we call the collection of such

[2] The data set is available to the public on the Philadelphia Fed's website at: www.philadelphiafed.org/econ/forecast/reaindex.html. See also the two articles by Dean Croushore and Tom Stark.

vintages a real-time data set. Using the real-time data set one can pick a point in history and see exactly what data policymakers had at their disposal at that time.

For example, suppose we were to look at the growth rate of real output for the first quarter of 1977. The first time real output for that quarter was reported, the national income and product accounts showed that real output grew 5.2 percent — that is the reading in our May 1977 vintage of the real-time data set. Over time, this estimate was updated and changed as better and more accurate data on that quarter became available. Today, when we look at the national income and product accounts, the growth rate of real output for the first quarter of 1977 is listed as 4.9 percent.

Importance of Data Revisions. Now that we have established that data revisions occur, the logical next question is how significant are the revisions to our understanding of current economic conditions. Not surprisingly, revisions in any particular quarter can be substantial, but in addition, our research suggests that these benchmark revisions can go on for some time and significantly alter our view of the economy over longer periods.[3]

For example, consider the inflation rate from 1975 to 1979 as measured by the PCE deflator. In 1995, the data showed inflation averaging 7.7 percent over that period. But it was subsequently revised down to 7.2 percent in the 1999 benchmark revisions of the data. Similarly, real output growth from 1955 to 1959 was as low as 2.7 percent in the 1995 benchmark vintage of the data but as high as 3.2 percent in the 1999 benchmark vintage.

In short, our real-time data set indicates that data are revised extensively over time, and subsequent vintages of the data may paint a much different economic picture than earlier vintages. For my purposes here, I would point out that our real-time data set allows us to see exactly what the economy looked like to policymakers at the time they made their decisions. Are there episodes where the data available to policymakers in real time indicated they were in a much different situation than the subsequently revised data show they were? I believe there are.

As Dean Croushore and Tom Stark pointed out, consider the situation in early October 1992.[4] Today's data tell us the economy was in pretty good shape in late 1992. Real output grew 4.2 percent in the first quarter, 3.9 percent in the second quarter, and 4.0 percent in the third quarter. But if you read accounts from that time, policymakers were clearly worried about whether the economy was recovering from the recession, and they were contemplating actions to stimulate the economy. Why were policymakers so worried? According to the data available to them, the economy had grown just 2.9 percent in the first quarter and 1.5 percent in the second quarter. Statistics for the third quarter had not yet been released, but forecasts suggested that economic growth had not picked up much from the second quarter's anemic 1.5 percent. In addition, a number of monthly indicators pointed to a decline in the economy. Later, many of these indicators were also revised up significantly. The point is that policymakers assessing their situation in October 1992 saw themselves in a much weaker economic environment than we now know they were.

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ANOTHER EXAMPLE — THE SAVING RATE

Let me offer another example that has more contemporary relevance. Earlier this year, we made public several new variables in the real-time data set. Two variables of particular interest are personal saving and disposable income. These variables are especially interesting because these data lead to the saving rate in the national income accounts. The personal saving rate is defined as personal saving divided by disposable personal income.

Recently, there has been a lot of talk about today's low personal saving rate in the U.S. Many economists have worried that the low personal saving rate may signal an impending slowdown in consumption growth and a precursor to a decline in aggregate demand. In light of this discussion, it is interesting to ask: How good is our measurement of the current saving rate?

An examination of the historical data by two of our researchers, Tom Stark and Leonard Nakamura, shows that the subsequent revisions in the average saving rate and its variation over time suggest that the saving rate

[3] See the working paper by Dean Croushore and Charles L. Evans, and the one by Leonard Nakamura and Tom Stark.

[4] See the *Business Review* articles by Dean Croushore and Tom Stark.

looks very different today than it did 20 years ago.[5] For example, the personal saving rate, according to today's statistics, peaked on an annual basis in the early 1980s. Back then, however, the early 1980s did not appear to be a time of high saving. As reported in the second quarter of 1980, the first-quarter 1980 personal saving rate was 3.4 percent, the lowest since 1950 and down from a peak of 9.7 percent in the second quarter of 1975. By contrast, the first-quarter 1980 saving rate is now reported to be 9.5 percent, and much of the revision has been fairly recent. Over the course of time, it was revised upward by 6.1 percentage points.

The problem with saving data for early 1980 was not that exceptional. In fact, the average saving rate between 1965 Q3 and 1999 Q2 has been revised up by 2.8 percentage points over time. The revision process typically has been upward and surprisingly large.

Why such large revisions? Personal saving is the difference between two aggregates: disposable personal income and personal outlays. These two series are collected from distinct bodies of data. Disposable personal income is the largest component of gross domestic income, which includes retained corporate income, government income from taxes and other sources, and capital consumption. These income data are collected from payroll data, Internal Revenue income tax filings, and corporate profit reports. Personal outlays are almost entirely due to personal consumption expenditures, the largest component of GDP. These data are collected from the revenues of retailers, service suppliers such as hospitals and hotels, and so forth.

Among the immediately available data, the more complete and reliable data are on the demand or product side; this is the source of GDP. Income side data are aggregated to gross domestic income, conceptually the same as GDP, but in practice differing by as much as 2.3 percent — the so-called statistical discrepancy. Typically, income is undercounted. All this suggests that our measure of the saving rate is both somewhat suspect because of substantial measurement error and subject to substantial revision. In fact, large variations in personal saving across time have typically been revised away.

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Will this happen again? We do not know for sure, but the contention that the current low estimate of the personal saving rate implies that consumption in the future will rise more slowly may be incorrect, as benchmark revisions may well result in a substantial upward revision in the current estimate. This is a good example of the difficulty experienced when a policymaker is forced to respond to data that traditionally have been significantly revised.

MONETARY POLICY IN THIS ENVIRONMENT OF IMPERFECT INFORMATION

We have established the fact that information about our goal of monetary policy is imprecise and our understanding of current economic conditions is imperfect; what is a policymaker to do? Put another way, what are the implications of these real-world uncertainties and imperfections in information for the proper conduct of monetary policy?

More Real-World Evidence. Here I can offer a few observations. The first of these is that we must remember that we live in a data-rich environment. There are many pieces of economic data that can be examined when making policy decisions, and no one piece of data ought to get too much weight. As my examples indicate, when data are measured imprecisely, putting too much emphasis on any one number can lead to problems.

Second, it should be remembered that some of the imprecision fades with time. As I have said many times before, high frequency data tend to be highly volatile and subject to substantial revision. A policymaker must look at available data in a broad context.

In this most recent business cycle, employment was very slow to come back to pre-recession levels. As a result, a lot of emphasis was being put on the monthly payroll growth numbers. When a good value was reported, people would assert that the labor market had finally returned to solid growth; when a bad number was reported, people grew concerned. The fact is that the standard error for the one-month change in payroll numbers is nearly 70,000, and making too much of any one monthly number is ill-advised. Given all the data issues, it is important not to overemphasize short-term deviations while ignoring long-term trends.

Third, it is important not to focus exclusively on quantitative data. Our interpretation of the numbers must be nuanced by real-world experience. As a Reserve Bank president I gather information from around my District and around the country. I believe it is of crucial importance to have ties and open communication with leaders in the worlds of business and finance. We need insight from both Main Street

[5] See the working paper by Nakamura and Stark.

and Wall Street when trying to understand the underlying dynamics of the aggregate economy. I also listen to reports from my board of directors on how they see the economy performing in their sectors. In addition, the Philadelphia Fed has set up several advisory councils and ad hoc roundtables that meet for the sole purpose of discussing how the members of these bodies see the economy progressing and the current state of price pressures in the economy.

If I see some small signs of inflation coming through in the data and I hear from these contacts that they are raising their prices and they are constantly facing higher input prices, those small signs of inflation would be more of a concern than if my contacts were not reporting evidence of price pressure.

This type of touch and feel of the marketplace is of great import and is one of the benefits of the decentralized structure of the Federal Reserve System. The fact that there are 12 Reserve Banks allows us to gather a large amount of regional intelligence that adds depth to our understanding of current economic conditions.

A CASE FOR GRADUALISM

Beyond all this, the fact that there is uncertainty surrounding the state of the economy and new economic information becomes available on a nearly continuous basis supports the notion that it makes sense for policymakers to move in a slow and cautious manner.

William Brainard, the well-known Yale economist, made the case for gradualism in a classic article that is now about a half century old.[6] He suggested that policymakers should be conservative in light of this lack of complete information, meaning that their policy responses should be attenuated. In fact, he argued that policymakers operating in a world of uncertainty should compute the direction and magnitude of their optimal policy response and then do less.

This type of attenuated policy action has several intuitive benefits. First, it guides the economy in a particular direction but probably will not allow policymakers to overshoot the goal. Second, by moving slowly, policymakers have time to assess the effects of their actions on the economy and update their views on what further action needs to be taken. As Chairman Greenspan has explained, monetary policymaking is risk management. The case for gradualism rests on the assessment that the cost of taking too large of an action is larger than the cost of taking too small of an action.

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However, the story does not end here. While it is true that moving in a gradual manner reduces the chances of overshooting with all its attendant costs, the policymaker cannot afford to be consistently behind the curve. Given that monetary policy affects the economy with long and variable lags, there is a chance that by acting in this attenuated fashion, we will undershoot the optimal policy stance. This can be at least as costly as overshooting. Our challenge is to weigh these costs and respond appropriately to the data and attendant risks involved.

Our experience during the most recent business cycle underscores the need to be flexible in choosing the speed with which we respond to unfolding economic developments. This was a cycle noteworthy for the uncertainties surrounding it and the large number of shocks that occurred along the way. In the months following the sharp stock market decline, it was unclear how rapidly economic activity was decelerating. Once it became clear, the Federal Reserve responded aggressively, ultimately cutting the target federal funds rate to a record low 1 percent. On the other side, in light of the pattern of recovery and expansion, the Federal Reserve has taken a gradualist approach to removing the monetary accommodation and returning to a more neutral policy stance.

TRANSPARENCY

Because the Fed must respond to incoming information differently in different situations, the Fed must communicate the rationale for its actions as clearly as possible in order to maintain public confidence in its commitment to its long-run goals

Of course, this openness has been an important aspect of recent monetary policy. The FOMC has been moving toward increased transparency for some time, and its communication with the markets has improved greatly over the past decade. Information about the Fed's policy goals, its assessment of the current economic situation, and its strategic direction are increasingly part of the public record.

Recently, the Federal Reserve has also taken action to expedite the release of the minutes from the FOMC meetings. Just this year, the FOMC began releasing the minutes of each meeting prior to the next meeting. The minutes not only report our decisions concerning immediate action but also

[6] See the article by William Brainard.

our sense of the key factors driving near-term economic developments and the strategic tilt to our actions going forward.

The goal of all these steps toward increased transparency is to inform markets about where the FOMC sees the economy today and where it thinks the economy is headed in the future. This is hopefully useful information that will improve the markets' understanding of our view of the economy and offer them insights into the direction of possible future policy actions.

All of these actions are steps in the right direction. It is important for the FOMC to be as open as possible. My hope is that by providing relevant information about our view of the economy and our current areas of concern, our actions will be more transparent and surprises will be the exception rather than the rule. With the benefit of hindsight, I think we can say that we have come a long way in this regard, as the list of changes I just offered you suggests.

CONCLUSION

In this message, I have tried to convey to you some of the challenges monetary policymakers face because they operate in a world of imperfect information.

Given our mission, the lagged effect of our policy actions, and the inevitable imprecision with which an economy as large and complex as ours can be measured, these challenges will not go away. So we must find ways to meet them.

Some of the problems I have outlined suggest that we often must rely on our theoretical knowledge of economics as we make decisions that affect the economy.

In addition, data gathered from our regional contacts are also of value in this process, even while the national data change shape with the arrival of new information that leads to their revision. There is value in listening and gathering the perspectives of our Reserve Bank boards of directors, advisory councils, and other regular contacts in our Districts.

Another part of the solution is to take care in choosing the pace at which we act and react to incoming data. Gradualism has a role to play in monetary policy, but not at the expense of falling behind the curve.

The last solution mentioned here is transparency and increased communication with market participants. Communication is an important part of the solution to operating in the real world of imperfect information. The increased transparency that has been the hallmark of the Greenspan Fed is an important part of optimal monetary policy in a world of uncertainty. BR

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Whither Consumer Credit Counseling?

BY ROBERT M. HUNT

For more than 50 years, nonprofit credit counseling organizations have been helping consumers manage debt. Despite this long track record, credit counseling is not without controversy. In recent years, concerns about conflicts of interest and the emergence of a new type of credit counseling agency have triggered significant legislative and regulatory activity. In this article, Bob Hunt outlines the history and development of credit counseling in the United States, highlights the concerns raised about consumer protection, and describes industry, regulatory, and legislative responses.

The availability and use of consumer credit in the U.S. has grown dramatically over the last 50 years.[1] While this is undoubtedly beneficial, one consequence is that, at any time, there are a million or more consumers having difficulties in managing their unsecured debts. For a half century, nonprofit credit counseling organizations have offered financial education and budget counseling sessions for free or at nominal cost to borrowers. They also negotiate comprehensive repayment plans (debt management plans) with a borrower's unsecured creditors. These repayment plans provide an alternative to bankruptcy that is valuable to many consumers.

But credit counseling is not without controversy. The older counseling organizations rely primarily on creditors for their revenues, and this may create the appearance of a conflict of interest. More recently, many new debt counseling organizations have appeared on the scene. This new breed relies less on creditors for revenues because they charge borrowers significantly more for their services. If these higher fees are drawn from a borrower's limited reserves, he or she may have additional difficulty completing the repayment plan. In addition, creditors worry that at least some of these new organizations are not screening their clients—proposing concessions for borrowers who could have paid their debts on the original terms. This has affected how creditors work with counselors. These concerns and others have triggered significant legislative and regulatory activity in recent years.

The credit counseling industry is an important one, but its activities and effects are not widely understood. Still the available research does give us some insight into the effects of consumer credit counseling and debt management plans on borrower behavior and the implications for the industry and regulation.

Any conclusions, unfortunately, must be tentative. There are few formal studies of the contribution of credit counseling organizations, and they must wrestle with a difficult methodological problem: Do borrowers who seek credit counseling perform better because of the counseling (a treatment effect) or because they are somehow different from borrowers who don't seek counseling (a selection effect)?

BACKGROUND

Credit counseling organizations typically provide four types of services to consumers: (1) they offer consumer financial education; (2) they offer budget counseling to individual households; (3) they negotiate *debt management plans* with creditors on behalf of borrowers; and (4) when appropriate,

[1] This article was inspired by two workshops organized by the Philadelphia Fed's Payment Cards Center in 2001 and 2003. These workshops are summarized in the article by Anne Stanley and the one by Mark Furletti. I thank Patti Hasson for many helpful discussions. Chris Ody and Paul Weiss helped me compile the data for this article.

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they refer consumers to other support organizations or recommend that they seek advice about a bankruptcy filing.

A debt management plan is a schedule for repaying all of the borrower's *unsecured* debts over three to five years.[2] Ideally, the credit counselor is able to include all of the borrower's unsecured creditors in the plan. While the principal is repaid in full, creditors typically reduce interest rates and other charges. Creditors are sometimes willing to *re-age* accounts in a debt management plan. In other words, assuming plan payments are made, the creditor considers the account as current and reports it this way to credit bureaus. This improves the borrower's payment history and credit rating.

An essential feature of the benefit credit counselors offer is the ability to coordinate the concessions made by a borrower's creditors. Of course, borrowers can negotiate with individual creditors, but they must overcome each creditor's concern that any concession it makes benefits the borrower's other creditors at its expense. Winton Williams coined a phrase for this phenomenon—the *creditor's dilemma*.[3] All creditors would likely benefit if they all agreed to refrain from legal action and allow the borrower more time to repay. But if all creditors agree to this approach, any individual creditor might do better by insisting on being repaid from the proceeds of the concessions offered by other creditors. If creditors distrust each other, they will refuse to make concessions and possibly race to secure claims on the borrower's cash flow (by garnishing wages) or assets (by placing liens on the borrower's property). If this happens, the borrower is more likely to file for bankruptcy, and all the unsecured creditors are likely to recover very little.

Credit counselors can often avoid this outcome. Through repeated interactions with creditors, they have established a reputation for securing the agreement of most or all of a borrower's creditors and establishing repayment plans that put each creditor on more or less the same footing in terms of the borrower's resources. This reduces the risk of a run against the borrower, which, in turn, increases the chances the creditors will be repaid.

Note that participation in debt management plans is entirely voluntary. Borrowers need not seek a credit counselor, and they may abandon a repayment plan if they so choose. Similarly, creditors cannot be forced to agree to a debt management plan, and they are free to resort to collections activity or other legal activity at any time. Clearly, what makes these plans work, when they do work, is a good deal of trust that is fostered by the credit counselor.

Origins of the Nonprofit Credit Counseling Industry. The traditional nonprofit credit counseling organizations emerged in the 1950s and 1960s, partially in response to the rapid growth in unsecured consumer debt during that time. Many were organized by or with the support of creditors. During this same period, many states enacted legislation to regulate or simply ban the operation of the existing for-profit debt counselors (sometimes called debt poolers or proraters) on consumer protection grounds. Most states deliberately exempted nonprofit counseling organizations from these laws in the hope that they would continue to develop.[4]

A national trade organization, what is now called the National Foundation for Credit Counseling (NFCC), became active in 1951. At its peak, NFCC membership included about 200 organizations with about 1,500 offices around the country.[5] Today, NFCC member organizations counsel 1.5 million borrowers each year. They administer nearly 600,000 debt management plans, which pay unsecured creditors at least $2.5 billion a year. To put these numbers into perspective, very roughly speaking, each year NFCC member agencies counsel about 1 percent of American bankcard holders, and there is one debt management plan for every two personal bankruptcy filings.

These nonprofit credit counselors rely primarily on contributions from creditors for their revenues. Under a norm called *fair share*, creditors would return to the credit counselor about 12 percent of debt payments it helped to facilitate. These contributions accounted for two-thirds or more

An essential feature of the benefit credit counselors offer is the ability to coordinate the concessions made by a borrower's creditors.

[2] An unsecured debt is one in which the borrower does not pledge collateral (e.g., a house or car) that may be taken by the creditor in the event the borrower defaults on the loan. Credit card debts are almost always unsecured.

[3] See Williams's book, *Games Creditors Play*.

[4] See the book by Perry Hall; section V of the *Northwestern University Law Review* Consumer Credit Symposium; the article by Abbey Sniderman-Milstein and Bruce Ratner; and the article by Margery Kabot Schiller. For a recent review of state regulations, see the report by the California Department of Corporations and the report by Deanne Loonin and Heather Packard.

[5] Not all credit counseling organizations are NFCC members. Others are members of the Association of Independent Consumer Credit Counseling Agencies (AICCCA).

of the revenues of traditional credit counselors, but the share has fallen in recent years.[6] In the past, fair share receipts exceeded the cost of administering debt management plans, which afforded resources for the agencies' consumer education and budget counseling programs.

Some argue that a dependence on creditors for revenues creates at least a potential conflict of interest. For example, does a credit counselor that relies on fair share payments have an adequate incentive to suggest that a consumer seek legal advice about bankruptcy?[7] About 6 percent of borrowers who contact an NFCC member agency are referred to legal assistance, while 30 to 35 percent are enrolled in a debt management plan.[8] While these numbers suggest that counseling agencies might steer some borrowers away from bankruptcy, we need to know a good deal more about borrowers' circumstances and preferences to conclude that this pattern is inappropriate from the standpoint of borrowers or society.

OPTIONS AVAILABLE TO DISTRESSED BORROWERS

Why do borrowers enter into debt management plans? Why are unsecured creditors willing to accept these plans? The answer is that participating in the plans is better than the alternatives for some borrowers and their creditors (see *Pros and Cons of Options Available to Borrowers*). Depending on the resources available, borrowers can choose between repaying on the original terms, not paying but not filing for bankruptcy either (informal bankruptcy), and formal bankruptcy. Creditors can be either more or less aggressive in their collection efforts, or they may take legal action, such as obtaining an order to garnish wages.

One factor that influences borrowers' choice is the effect on their future access to credit. Obviously, timely repayment on the original terms preserves the borrower's credit history and is most likely to ensure future access to credit on good terms. Under the informal or formal bankruptcy options, borrowers will have difficulty obtaining new credit on affordable terms for a long time. A bankruptcy flag remains on a borrower's credit report for 10 years.

> Most borrowers can choose between two forms of bankruptcy: Chapter 7 (liquidation) or Chapter 13 (a wage-earner plan).

Another factor that influences borrowers' choice is the size of the payments they make and how creditors respond. Payments are typically largest if the debt is paid on the original terms. Alternatively, the consumer can simply stop making payments (informal bankruptcy). But this option affords borrowers few protections from debt collectors. They can't prevent repossession of their car or foreclosure on their house. They can't prevent creditors from placing liens against the real property they own. They have few ways of avoiding garnishment of their wages. Still, many distressed borrowers choose not to repay and not to file for bankruptcy.[9]

Two Forms of Bankruptcy for Consumers. Most borrowers can choose between two forms of bankruptcy: Chapter 7 (liquidation) or Chapter 13 (a wage-earner plan).[10] Both chapters impose a stay on collections and legal actions by creditors. In the case of Chapter 13, this may allow the borrower to catch up on mortgage payments and avoid foreclosure.

Under Chapter 7, the borrower's assets (except for certain exempt property) are used to pay some portion of the debts owed to unsecured creditors.[11] The remaining unsecured debt is discharged, so the consumer's future income is unencumbered. In practice, borrowers filing under this chapter rarely have assets to surrender, so unsecured creditors receive little or nothing. The claims of secured creditors are unaffected, so they can eventually foreclose on those assets if they choose. It is not uncommon for borrowers to *reaffirm* their secured debts in order to retain the collateral (such as the car or the house).

Alternatively, the borrower can file under Chapter 13 of the bankruptcy code. Under this chapter, the borrower can keep his or her assets but must propose a repayment plan financed by a significant share of his or her future income over the next several years. The plan must offer

[6] Until recently, this source of funding was not always disclosed to borrowers. In 1997, the NFCC reached an agreement with the Federal Trade Commission (FTC) to make such disclosures a matter of policy.

[7] This question applies equally to credit counselors that rely primarily on fees charged to consumers.

[8] Another third of borrowers receive financial education or household budget counseling.

[9] See the paper by Lawrence Ausubel and Amanda Dawsey and the article by Michele White.

[10] Good summaries of consumer bankruptcy law are found in the article by Wenli Li and the one by Loretta Mester. Significant changes to U.S. bankruptcy law were enacted in 2005 (see page 17).

[11] Exempt property is typically determined by state law. It may include some portion of equity in the borrower's home, automobiles, household goods and clothing, and tools used for one's trade.

Pros & Cons of Options Available to Borrowers

Option	Borrowers	Unsecured Creditors
Repayment on original terms	**Preserves access to credit on better terms** Assumes sufficient cash flow to pay principal & interest	**Principal repaid in full** **Earns interest & fee income**
Informal bankruptcy	**Preserves cash flow for other expenses** Little or no access to new credit Little protection from legal action by creditors	Lose most or all principal Collections & legal action are costly
Chapter 7 bankruptcy filing*	**Unsecured debts typically discharged** **Future income unencumbered by debt payments** **Prevents collections & legal action by creditors** Borrower must undergo credit counseling prior to filing and obtain financial education prior to the discharge Nonexempt property sold to pay debts Filing and attorney fees Bankruptcy flag on credit report for 10 years Cannot file again for Chapter 7 bankruptcy for 8 years	Stay against collections & legal action Lose most or all principal
Chapter 13 bankruptcy filing	**Borrower retains his or her property** **Repayment plan based on future income (3-5 years)** **Unsecured debts are not repaid in full** **Prevents collections & legal action by creditors** Part of future income devoted to debt payments Filing, attorney, and trustee fees Bankruptcy flag on credit report for 10 years Cannot obtain a Chapter 13 discharge within 2 years of a previous Chapter 13 discharge, or within 4 years of a discharge under another chapter	Stay against collections & legal action Planned payments typically cover a small portion of original principal Many repayment plans fail
Debt management plan	**Creditors voluntarily abstain from collections & legal action** **Lower interest & fees** **Improved credit history should ensure access to new credit sooner than bankruptcy** Diverts cash flow from payments on secure debts Must pay entire principal Plan fees (see text)	**If successful, principal repaid in full** **Part of repayment (fair share) goes to counselor** Lower interest & fee income Many repayment plans fail

*Under the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, access to a Chapter 7 discharge is subject to a means test. For details, see the January-March 2005 issue of the Federal Reserve Bank of Philadelphia's *Banking Legislation and Policy* (www.philadelphiafed.org/econ/blp/index.html).

unsecured creditors at least as much as they would obtain under a Chapter 7 filing, but, as noted above, this is typically not very much. Creditors cannot reject the terms of a plan if the borrower has pledged his or her entire *disposable* income over the next three to five years for debt payments. Disposable income here means income after taxes, basic living expenses, and tuition. Upon completion of the plan, the remaining unsecured debts are discharged. In practice, unsecured creditors typically receive a fraction of the outstanding principal (see below). General unsecured creditors received about $815 million from Chapter 13 plans during the 2001 fiscal year.[12]

Debt Management Plans Are Not the Same as Chapter 13. While debt management plans are similar in many ways to a Chapter 13 bankruptcy filing, there are several important differences.[13] Borrowers who participate in a debt management plan should be able to improve their credit history more quickly than if they default or file for bankruptcy. This should mean they are able to gain access to new credit more rapidly.[14] Unlike most Chapter 13 plans, debt management plans expect the borrower to repay the entire principal owed. A number of protections afforded in bankruptcy are absent in a debt management plan. For example, participation in a debt management plan does not protect the borrower from legal action by his or her creditors. Nor are creditors compelled to accept a proposed debt management plan.

Debt management plans also do not address secured credit. If consumers have important assets, financed by secured loans, which they are also having trouble paying, a bankruptcy filing may be the better option. In this situation, a borrower who enters a debt management plan might increase the risk of losing the house because he or she has pledged income to pay unsecured debts that would probably be discharged in bankruptcy. In short, while debt management plans are useful for many distressed borrowers, they are not suitable for all borrowers in trouble, and they are not simply a substitute for a Chapter 13 filing.

> Do borrowers who seek out credit counseling perform better because of the counseling or because they are somehow different from borrowers who don't seek counseling?

Why Do Creditors Agree to Participate in Debt Management Plans? From the creditor's standpoint, the net benefit of agreeing to a debt management plan depends on what they think the borrower will do in the absence of the plan. If the creditor thinks a borrower will otherwise stop paying altogether or enter bankruptcy, the creditor might recover more if it agrees to a debt management plan than if it refuses. But if the creditor thinks a borrower would otherwise continue to pay, agreeing to a debt management plan would likely reduce the payments the creditor will receive. After all, longer repayment terms, lower interest charges and fees, plus fair share payments come at the expense of the creditor.

What's more, creditors' expectations depend significantly on what they expect a borrower's other creditors will do. As explained earlier, if it is likely that another creditor will push a borrower into bankruptcy, every creditor has less incentive to offer concessions or to refrain from collections activity.

WHAT DO CREDIT COUNSELORS ACCOMPLISH?

Once again, it's important to recognize the very difficult problem of selection: Do borrowers who seek out credit counseling perform better because of the counseling or because they are somehow different from borrowers who don't seek counseling? It is at least possible that any measured differences between these groups is due to a selection effect (perhaps only highly motivated borrowers seek out counseling) rather than a treatment effect (the counseling itself helps borrowers to manage their debts).

Debt Management Plans. According to data from NFCC members, a typical debt management plan included $16,000 in unsecured debts, roughly 40 percent of the annual income of the participating borrowers.[15] Despite this remarkable degree of leverage, about one-quarter of plan participants remain in the plans until all their debts are paid off. In many other cases, borrowers pay down some of their debts and exit the plans to manage the remainder on their own. Still, approximately one-half of debt management plans fail after about six months. In some instances, borrowers have pledged more cash flow than they can afford. In others, one or more creditors refuse to accept the terms

[12] See the article by Ed Flynn, Gordon Burke, and Karen Bakewell.

[13] See the 1999 and 2004 articles by David Lander.

[14] There is no direct test for this, but the Visa study (discussed later) is suggestive.

[15] These borrowers had an average total indebtedness of $51,000 including mortgages, medical debt, and tax liens.

of a plan and take actions (such as garnishment) that push the borrower into bankruptcy.

Anecdotal evidence suggests the completion rate of debt management plans is a bit higher than for Chapter 13 plans (which is only about 33 percent). But the criterion for success is different under debt management plans, where the entire principal is expected to be repaid. Even in successful Chapter 13 plans, unsecured creditors receive only about 35 percent of the original principal.[16] Chapter 13 plans are also costly to administer. The average attorney's and trustee's fees for a Chapter 13 case in 2003 were $1,500, or about 14 percent of the amount repaid.[17]

A 1999 study conducted by Visa provides some insights into the success or failure of debt management plans. Borrowers who dropped out were more likely to be unemployed or to lose their jobs. Similarly, borrowers with lower income were less likely to complete their plans. Almost a third of borrowers who dropped out of a debt management plan had filed for bankruptcy. Compared to a separate survey of borrowers who filed for bankruptcy, participants in debt management plans appear to enjoy better access to unsecured and secured credit. Those successfully completing a debt management plan were more likely to hold a credit card than those who could not. Borrowers who successfully completed a debt management plan were more likely to buy a house than those who did not complete the plan.

Visa asked borrowers why they sought credit counseling. Respondents were three times as likely to mention a desire to get out of debt, or concerns about being overextended, than to cite creditors' collection tactics or the desire to avoid a bankruptcy filing.[18] This may suggest that borrowers who enter into debt management plans are different from other distressed borrowers. To rule out such a possibility, researchers typically devise studies that randomly assign participants into *treatment* and *control* groups and then examine differences in outcomes between these groups.[19]

Is there any evidence that creditors do better with accounts in debt management plans than with accounts held by borrowers with similar observable characteristics?

Is there any evidence that creditors do better with accounts in debt management plans than with accounts held by borrowers with similar observable characteristics? Creditors obviously believe they do, or they would not be willing to participate in the plans. Ralph Spurgeon describes the results of comparison between two sets of cardholders at a large store chain: One group enrolled in debt management plans, and the other group did not.[20] The chain lost money on both groups of accounts, but it lost 32 percent less on the accounts in debt management plans. Taking into account fair share payments to the credit counseling organizations, the chain's net losses were 17 percent lower.

Consumer Financial Education. There is some evidence of significant effects for the counseling programs offered by NFCC member organizations. In one study, only 7 percent of consumers counseled filed for bankruptcy, compared with 25 percent in a comparable control group. In another study, economists Gregory Elliehausen, Christopher Lundquist, and Michael Staten examined the effect of budget counseling (not debt management plans) on borrower credit quality, as measured by data contained in credit bureau files for about 6,000 borrowers just before and three years after the counseling session (that is, in 1997 and in 2000). Improvements among this group were compared to changes in the creditworthiness of a comparable control group—comparable in the sense that individuals with similar credit scores were drawn from the same geographic areas as those who were counseled.[21]

The authors report significant improvements in a wide variety of measures of creditworthiness among borrowers who sought credit counseling. Relative to the control group, counseled borrowers increased their credit scores and decreased their total indebtedness and the number of accounts with balances. They also experienced a significant decline in the number of delinquent accounts.

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[16] The statistics on debt management plans are from the articles by David Lander and statistics provided by the NFCC. The statistics on Chapter 13 plans are from the report by the Congressional Budget Office and the articles by Jean Braucher; Scott Norberg; and William Whitford.

[17] See the 2005 article by Gordon Bermant. These amounts do not include filing fees.

[18] But when asked, "What was the last straw?" borrowers cited collection tactics four times as often as any other factor.

[19] There is now at least one study of this sort for debt management plans underway. See the article by Ladwig.

[20] The samples were selected to exhibit comparable distributions of credit scores.

[21] Borrowers who received counseling were identified from the files of five NFCC member counseling organizations.

The effects were the largest among borrowers with the lowest credit scores around the time they sought out credit counseling.

There remains the concern that the borrowers who sought out credit counseling are somehow different from other borrowers. In their analysis, Elliehausen, Lundquist, and Staten try to control for this by first attempting to predict, using data contained in credit bureau files, which borrowers would seek out counseling. That makes this study superior to most other studies, but we still cannot be entirely sure the authors' technique has fully controlled for selection bias.

A REVOLUTION IN THE CREDIT COUNSELING INDUSTRY?

Around 1990, there were about 200 nonprofit credit counseling organizations in the U.S. It took 30 years to reach that number. But this process of gradual increase changed dramatically in the 1990s. After 1994, at least 1,200 new organizations began counseling borrowers; three-quarters of these became active after 1999.[22] This *new breed* has been very successful, taking market share away from NFCC member organizations. Several of the new organizations are the largest in the field, managing roughly $7 billion in outstanding debts.[23]

The new breed is different from the previous generation of counseling agencies. For example, they are more automated, and they invest much more heavily in advertising. They also focus almost exclusively on debt management plans. They offer little budget counseling or financial education. They rely more on borrowers, and less on creditors, for their revenues. They do this by charging borrowers significantly higher fees than the traditional counseling agencies. It can cost a borrower $1,000 or more in fees to complete a debt management plan with some of the new counseling organizations.[24]

Some members of the new breed have been accused of engaging in egregious trade practices, similar to those attributed to the for-profit debt counseling organizations of the 1950s and 1960s.[25] Some organizations apply the first month of debt payments to plan fees rather than payments to creditors, but they don't disclose this information to borrowers. As a result, these borrowers fall further behind with their creditors. Other counseling organizations charge borrowers large upfront fees. Some deduct significant fees ($50 or more) from borrowers' monthly debt payments. Some counselors don't include all unsecured creditors in the plan, increasing the risk of legal action against the borrower and ensuring the failure of the plan. The completion rate on plans administered by some of the largest of the new counseling organizations is rather low—only 2 percent in one instance.[26]

Why the Influx of New Counseling Organizations? Several factors explain the influx of new organizations into the counseling industry. For one, demand for these services has increased significantly. Consider the case of general purpose credit cards issued by banks. In the 11 years between 1992 and 2003, the number of bankcard holders increased by nearly 33 million. Among this group, the share that was seriously delinquent rose gradually until 1999 and then rose rapidly as the U.S. entered into recession. The combination of these two trends has contributed to a tripling of the number of delinquent cardholders (Figure 1).[27] This also corresponds with a period of rapid increase in bankruptcy filings and in active debt management plans relative to the population (Figure 2). The recent decline in the use of debt management plans may be due in part to rising house prices (and low interest rates), which have helped many consumers to pay down their unsecured debts using home equity loans.[28]

A second factor is that barriers to entry into the credit counseling business have fallen, at least temporarily. There are a number of reasons for this. For one, nonprofit credit counseling organizations are lightly regulated at the state and local level, and there is no federal regulation that directly addresses this industry.[29] Another is that

[22] Not all of these survive—there are currently about 870 active nonprofit credit counseling organizations.

[23] This number is calculated from the 2005 report by the U.S. Senate Subcommittee on Investigations (hereafter Senate Report).

[24] By way of contrast, the average set-up fee among NFCC organizations is $25, and the average monthly maintenance fee is $15.

[25] While it is difficult to measure the frequency of such practices, a number of examples can be found in the Senate Report, the testimony of Howard Beales of the FTC, and the report by Deanne Loonin and Travis Plunkett.

[26] See the March 30, 2005, FTC press release.

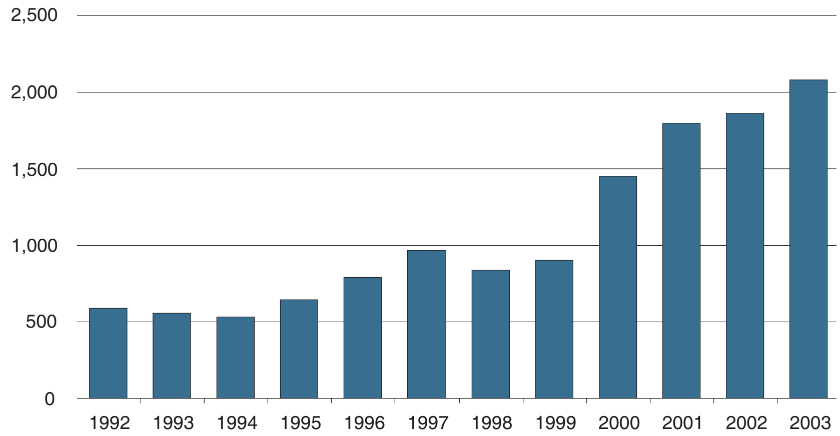
[27] A similar pattern is observed when comparing the 1992 and 2001 editions of the Survey of Consumer Finances (SCF). According to the SCF, the number of families with bankcards increased by 19 million. The share of families 60 or more days late on a debt payment increased from 6 to 7 percent. Taking into account the increase in households over this period, it appears that about 1.9 million more families were having trouble paying their debts in 2001 than in 1992.

[28] Another factor was the declining market share of NFCC members—the figure includes only debt management plans administered by those organizations.

[29] The Federal Trade Commission can sue counseling organizations that engage in unfair or deceptive trade practices, but its jurisdiction does not include nonprofit organizations. That means the FTC must also convince a court that these institutions are "organized to carry on business for its own profit or that of its members."

FIGURE 1

Delinquent Bank Cardholders (thousands)

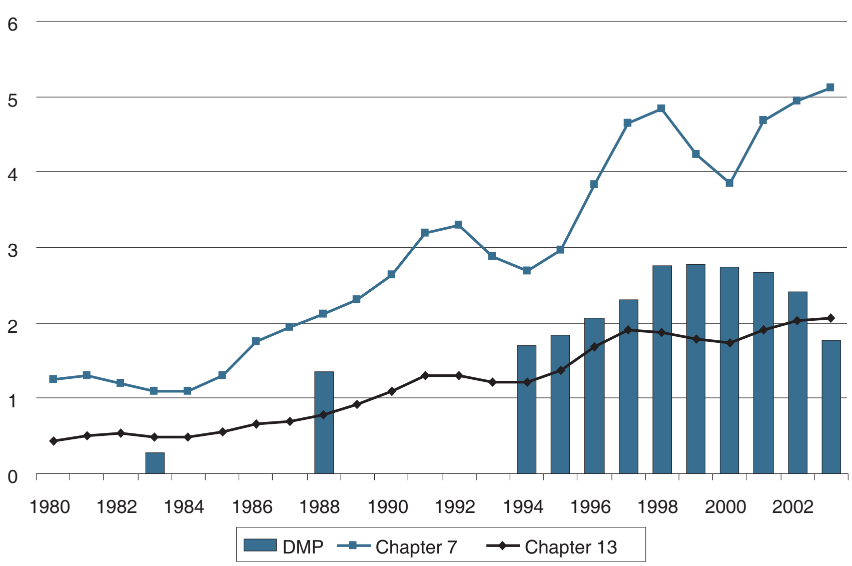


Sources: Author's calculations based on data from the *Statistical Abstract of the United States, The Nilson Report,* and TransUnion's Trendata.

Note: Delinquency refers to cardholders who are 90 or more days late on their payments.

FIGURE 2

Bankruptcy & Debt Management Plans per Thousand of Population 16 and Older



Sources: Author's calculations using data from NFCC and the Administrative Office of the U.S. Courts.

Note: Data on debt management plans refer only to NFCC member organizations

advances in technology (call centers, the Internet, data processing, and electronic payments) reduced the upfront cost of setting up debt management plans and the ongoing cost of administering them. But these technologies also require significant investment, and that is one reason newer counseling organizations seek the business of borrowers around the country rather than in a particular local market, as was common with the older counseling organizations.

Another reason barriers to entry were at least initially low is the amount of trust established between credit counselors and creditors over the previous 30 years. Creditors expected counselors to properly screen borrowers and were willing to provide generous fair share payments. At least initially, creditors treated the new organizations much as they did the older ones.[30] The success of the existing institutions also invited entry. If fair share payments could be used to subsidize education and budget counseling, profits could be earned by organizations willing to focus on just debt management plans, assuming they are successful in attracting borrowers.

The Relationship with Creditors. Credit counselors no longer enjoy the same relationship with creditors. One reason is that the out-of-pocket costs for debt management plans have become quite large. The share of large credit card portfolios that consist of accounts in debt management plans is now about 2 to 3 percent. About a quarter of the collections budget of

[30] This may be due in part to antitrust concerns. In 1994, several independent credit counseling organizations sued Discover Card and NFCC, alleging an illegal restraint of trade, because Discover would make fair share payments only to NFCC members. The suit was eventually settled.

major credit card lenders is spent on fair share payments.[31]

While it has always been difficult to quantify the benefit to creditors of participating in debt management plans, creditors suspect the benefits to them may have fallen. With the entry of the new breed, creditors are convinced that at least some consumers that would otherwise pay their unsecured debts are simply seeking more advantageous terms.

At the same time, creditors began to reduce their fair share payments from the 12 to 15 percent typical of 20 years ago to half this amount, or even lower, today. Among NFCC members, fair share payments currently average about 6 percent of payments made to creditors. Revenue compression has contributed to consolidation among NFCC members and the near failure of others.[32] In contrast, the new breed is less affected because they rely more on fees paid by the borrowers and are more willing to raise those fees.

In addition, creditors have reduced the concessions (such as lower interest rates) they offer to borrowers enrolled in debt management plans, making them more difficult to complete.[33] This has a significant effect on borrowers, since balances take longer to pay off when the interest rates are higher. As a result, borrowers pay down less debt over the typical three- to five-year length of a debt management plan. In addition, borrowers are more likely to become discouraged and drop out of the plan altogether.

[31] See the article by Linda Punch and the Senate Report.

[32] See the report by Deanne Loonin and Travis Plunkett and the article by Jane Adler.

[33] See the 1999 press release by the Consumer Federation of America. It also documents the decline in fair share contribution ratios among a number of large banks.

COUNSELORS, CREDITORS, AND REGULATORS RESPOND

More recently, there are signs that established credit counselors and creditors are responding to the influx of counseling organizations. For example, the NFCC has established new standards for its member organizations, including accreditation of counselors, licensing and bonding requirements, annual audits of accounts, educational and counseling requirements, and disclosure of financing sources and fees. In addition, the NFCC prohibits the payment of bonuses to credit counselors, charging consumers fees in advance of providing services, and "prescreening" consumers to be solicited for debt management plans.

> Large creditors are concentrating their fair share payments on a smaller number of counseling organizations—ones that can demonstrate their effectiveness.

Credit counselors are seeking alternative funding sources for their financial education and budget counseling efforts. They are also participating in studies to demonstrate the efficacy of these programs. NFCC members are also making significant investments in IT to improve their productivity.

Creditor Action. Lenders are changing their relationship with counseling organizations. For example, they now play a more active role in determining which consumers should be eligible for debt management plans. Some creditors make fair share payments only to counseling organizations that meet specific standards, for example, by limiting fees charged to borrowers.

Creditors are adopting back-loaded fair share payments and other pay-for-performance formulas. For example, when a borrower starts a debt management plan, the creditor may return only 2 percent to the counseling organization. If the borrower remains current on the plan for a year, the creditor may return an additional 7 percent of plan payments to the counseling organization. Other lenders are replacing fair share contributions altogether with charitable contributions made to nonprofit counseling organizations that apply for support.[34] In short, large creditors are concentrating their fair share payments on a smaller number of counseling organizations—ones that can demonstrate their effectiveness. These changes are relatively new, so creditors and credit counselors continue to hone the measures of effectiveness used to determine fair share payments.

Legislation. The most significant changes affecting the credit counseling industry are those contained in the recently enacted bankruptcy law.[35] The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 limits access to Chapter 7 for some high-income borrowers, leaving them to consider either a workout under Chapter 13 or a debt management plan negotiated by a credit counseling organization. The act also lengthens from six to eight the number of years before a borrower can obtain another Chapter 7 discharge.

In addition, borrowers are now required to obtain credit counseling from an approved nonprofit organization before filing for bankruptcy. To obtain a

[34] For examples, see the Senate Report and the articles by David Breitkopf and Burney Simpson.

[35] Public Law No. 109-8. For a summary, see the January-March 2005 issue of the Federal Reserve Bank of Philadelphia's *Banking Legislation and Policy.*

discharge of their debts in bankruptcy, borrowers must first complete a course in personal financial management. The NFCC estimated its members would provide 780,000 pre-filing counseling sessions and 535,000 pre-discharge education sessions in the first year after the law took effect (October 17, 2005). This will require an increase of more than 1,000 counselors.[36]

The law specifies minimum standards to be used by U.S. trustees or the courts to determine whether a nonprofit credit counseling organization is approved for the purposes of the mandatory counseling requirement. Assuming these standards are sufficiently rigorous, such a certification process could make it easier for consumers to identify reputable credit counselors. The law also requires the Executive Office for U.S. trustees to develop standards for the required consumer financial education programs and to evaluate the effectiveness of those efforts.[37]

This law includes a provision designed to encourage unsecured creditors to accept debt management plans proposed by credit counselors. If such a plan would repay 60 percent of the original principal (under current practice these plans return 100 percent of the principal), and the creditor refuses to participate, a borrower filing for bankruptcy can petition the court to reduce the outstanding debt by up to 20 percent. The likely effect of this provision is unclear. If a borrower is able to file under Chapter 7, most or all of his or her unsecured debts will be discharged anyway. Most Chapter 13 repayment plans offer unsecured creditors some portion of the original principal, but it is typically small and even less is usually repaid. A 20 percent reduction in such amounts may be insufficient to influence the decisions of unsecured creditors.

There are a number of other legislative proposals at the federal level. A 2003 bill, the Debt Counseling, Debt Consolidation, and Debt Settlement Practices Act (H.R. 3331), would make explicit that credit counseling organizations, irrespective of their nonprofit status, can be sued for unfair and deceptive trade practices. There are also proposals to revise the 1996 Credit Repair Organizations Act with credit counselors in mind. That law currently does not apply to nonprofit organizations. A recent federal court case, however, makes clear that the act will apply to tax-exempt charities that are, in fact, operated as for-profit organizations.[38]

The National Consumer Law Center, together with the Consumer Federation of America, has proposed a model state law to regulate credit counselors. The National Conference of Commissioners on Uniform State Laws is also working on a draft Uniform Consumer Debt Counseling Act that would, among other things, regulate fees charged to consumers for debt management plans and require that counselors spend at least as much on education as they do on advertising.

Regulatory Action. Since 2003, the Internal Revenue Service has initiated investigations into the nonprofit status of 59 credit counseling organizations, which collectively account for approximately 50 percent of the industry's revenues. It has since revoked the tax-exempt status of six organizations and denied applications for nonprofit status to 20 others.[39] Also in 2003, the FTC sued a number of the newer counseling organizations for engaging in unfair and deceptive trade practices and operating as for-profit enterprises. In 2005, the FTC concluded a number of settlements, effectively shutting some of these organizations down. Others have announced changes in their organization and business practices.[40]

CONCLUSION

In the U.S., credit counseling organizations are playing an increasingly important role in the functioning of the market for unsecured consumer credit. Credit counselors make it possible for some borrowers to repay their unsecured debts. This, in turn, offers borrowers the chance to re-establish access to credit more rapidly than if they file for bankruptcy.

Credit counselors are also important providers of consumer financial education and budget counseling, which, until recently, was indirectly subsidized through fair share payments made by creditors. If these programs are indeed effective, but creditors are now less willing to fund them, perhaps the public should. In other words, these activities may represent an important public good. A lender may well benefit when its customers become more sophisticated about credit, but the lender does not enjoy all the benefits. Some of the benefits are enjoyed by the customer and his or

[36] See the September 2005 press release from the NFCC.

[37] A list of approved counseling organizations can be found at www.usdoj.gov/ust/bapcpa/ccde/index.htm. There is also a list of organizations approved to provide instruction in personal financial management.

[38] See *Zimmerman v. Cambridge Credit Corp et al.*, 1st Circuit, No. 04-2039 (2005). A key test, according to the decision, is whether the organization is generating income for itself or others.

[39] See the article by Caroline Mayer.

[40] See the testimony of IRS Commissioner Everson, the March 2005 press releases from the FTC, and the Senate Report.

her other creditors. Thus, lenders may have an inadequate incentive to fund such efforts. While customers may benefit from receiving budget counseling and financial education, they are presumably unable to afford it at their time of greatest need.

There is evidence that credit counseling organizations are effective in helping some consumers regain access to credit and better manage their finances. But it is difficult to interpret these results. Are they due to selection or treatment effects? Relatively little formal research has been done, and there remains a lot more to do.

In recent years, changes in technology and in the market for consumer credit have induced major changes in what had been a quiet life for nonprofit credit counseling organizations. There has been a dramatic increase in the number of counseling organizations and in the observable costs of debt management plans among unsecured creditors. Creditors are not so sure they are benefiting from the increased use of debt management plans.

Creditors and traditional counseling organizations are beginning to respond to these new conditions, but it is too early to tell how effective these changes will be. There is also growing interest, both at the state and federal levels, in additional regulation of credit counselors. The idea is to make it easier for consumers to make an informed choice among credit counselors.

But distressed borrowers must also decide between their different options. Is it better to file for bankruptcy than to participate in a debt management plan? If so, is it better to file under Chapter 7 or Chapter 13? How well do borrowers understand these options? What organizations are in the best position, and have the right incentives, to educate consumers about these options? More generally, how can we quantify the effect of credit counselors' activities on consumers' access to unsecured credit and the price they pay for it? These are just a few of many important questions that require further study.

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Underestimating Advertising:
Innovation and Unpriced Entertainment

BY LEONARD NAKAMURA

Although advertising is often the object of much disrespect, it nonetheless plays a significant role in the economy. For one thing, it helps consumers find out about new products, and new products have been rising in economic importance. Therefore, this relationship between new products and advertising makes it worthwhile to revisit the economics of advertising. In this article, Len Nakamura discusses advertising's role as a productive economic activity as well as its value as a long-term investment and its role in subsidizing entertainment, such as TV and radio broadcasts.

It's easy to disrespect advertising. Ads interrupt football games, impede news reports, and slow Internet searches. It should be no surprise, then, if the social usefulness of advertising is underestimated. Even economists, usually so mindful of the benefits of free markets, have often been unaware of the multiple benefits advertising provides.

Consider its role in new product development, the source of so much economic progress. If potential users don't find out about new products so that they can buy them, firms will have little incentive to create them. That's where advertising comes in: It helps consumers learn more quickly about the existence and properties of new products, so they can buy them, thereby making themselves, as well as the firms that made the products, better off.

Advertising thus helps firms and users benefit more from creativity. Larger returns increase the expected rewards to creativity, encouraging new product development and productivity gains. Since new products have been rising in economic importance, this nexus between new products and advertising makes it worthwhile to revisit the economics of advertising. Advertising — although widely disrespected — can be an unusually productive economic activity. Two other aspects of advertising are often overlooked: its value as a long-term investment and its role in subsidizing entertainment such as TV and radio broadcasts.

ADVERTISING: HOW IT WORKS AND HOW WE VIEW IT

Advertising has been derided as being, on its face, a creator of wasteful monopoly. In this view, advertising creates an artificial monopoly that, in turn, compensates the maker of the advertised product for the expense of advertising. Consumers would be better off without advertising. The additional price paid for the advertised product may waste economic resources if it does nothing to enhance the product. The British economist Nicholas Kaldor worried about this aspect of advertising in his seminal article. Can advertising do anything to enhance a product? It is only words and images, smoke and mirrors.

Advertising Reduces Search Costs. Is it so obvious that words really do nothing? Perhaps advertising makes a product more valuable to consumers. To see how it can do so, we begin by recognizing that advertising is a form of communication, of transmitting information. The systematic study of information transmission dates from University of Chicago economist George Stigler's classic 1961 article on information. In that article, he directly addressed advertising, arguing that it can be defined as communicating with consumers about products.

Stigler focused on the simple case of consumers who know a product exists but not where to buy it, and who might have to expend time and energy

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to locate it. In this case, advertising that lets consumers know where to buy a product (or its price) can lower the consumers' search costs. A bird in hand being worth more than *one* in the bush, advertising raises the price a consumer will pay at a given location.

Advertising New Products. Another type of informative advertising tells consumers about the qualities of new products. New products are protected from competition by patents and copyrights, but these protections do not inform consumers about the existence of the new products and their attributes. This is the job of advertising; advertising helps consumers adopt new products faster, speeding profits for the new product's developers. Since the developer's monopoly is only temporary, speed is crucial. For example, the now-familiar silhouette iPod dancers have been used to help create awareness of the Apple iPod and induce millions of new consumers to participate in the legal downloading of music. In turn, Apple reaped large rewards for this more convenient method of obtaining music.

Persuasion to Change Consumer Preferences. Advertising of well-known products that doesn't provide price or seller locations does not appear to be informative. Consumers know that beers and colas exist. How then does advertising create value? One answer is that advertising persuades. The industrial economist Richard Caves wrote in 1967, "[Advertising] seeks to change our preference patterns and create wants which our private introspection would deny…. Where advertising departs from its function of informing us and seeks to persuade or deceive us, it tends to become a waste of resources."

In this view, persuasion is seen as a distortion of desire. Consumers don't know their true desires in the wake of advertising or possibly didn't know their true desires before the advertising. But can we use the tools of economic analysis to study consumers who have a distorted view of their wants, either before or after a change in preferences? Economists Avinash Dixit and Victor Norman in their 1978 article argued that we should not include distorted preferences in welfare analysis, but they note that we can analyze how the consumer is affected if we use either criterion consistently: the consumer's pre-advertising preferences or post-advertising preferences.

New products are protected from competition by patents and copyrights, but these protections do not inform consumers about the existence of the new products and their attributes.

To understand what this means, consider an alternative mechanism for a change in preferences. For example, a hot summer may boost consumers' purchases of air conditioners. We judge the new quantities as being right for the consumer, given that the hot summer has occurred — we don't use the purchases from a cool summer to argue that consumers have been fooled. With persuasive advertising, however, demand has changed, but without anything concrete to point to as the cause of the change. In this view, consumers have been fooled. But if consumers can be fooled, they can also wise up — they can be "unfooled." For any specific piece of advertising, you don't know which has occurred. So what to do?

Dixit and Norman argued that if you obtain the same results using either criterion, you have a convincing analysis. And once you consider both, they argue that under either standard, most persuasive advertising is likely to be excessive from society's point of view. They point out that if advertising raises the consumer's demand for a product, two effects raise the advertiser's profit. One is that consumers are willing to buy more of a product at any given price, making themselves and the advertiser better off. To this extent, consumers' and advertisers' interests are aligned, and advertising may be a good thing.

But a second effect is that advertising may either raise or lower the price of the product. If the price rises, all consumers of this good pay more for each unit of the good; the advertiser is made better off without any corresponding benefit to consumers. To that extent, the advertiser has an incentive to spend money on advertising without benefit to consumers; advertising is a pure cost – what economists call a deadweight loss. Furthermore, Dixit and Norman show that as long as this second incentive exists, firms with market power will spend too much on advertising. They show that as advertising approaches the level that maximizes the advertiser's profit, the last dollar spent is entirely this pure cost. This analysis does not imply that society would be better off banning advertising, but it does imply that in these cases, we would certainly be better off with a little less advertising. One way of getting advertisers to reduce their spending would be to apply a small tax to advertising expenditures.

On the other hand, it is possible that the price to consumers could fall as a result of advertising, for example, if having a larger market could result in lower per unit costs. In this case, consumers are better off, according to the post-advertising tastes, although it is possible they could still be worse off under pre-advertising tastes.

This analysis is valid whether we choose the consumer's preferences before or after the advertising as the valid criterion, but it assumes that advertising has no impact on the product's *true* value to the consumer. The last dollar of advertising gets the consumer to buy a tiny bit more of a product, so that the marginal benefit to the consumer is, at best, very small and fully offset by what the consumer is paying for the product. But what if advertising affects the true value of customers, e.g., suppose advertising is informative. Then the last advertising dollar reaches a consumer who wouldn't otherwise buy the advertised product, and this transmission of information can potentially have a large benefit.

Thus, when advertising is informative, the last consumer is made better off from the last dollar of expenditure.

Advertising to Change the Product and Not Preferences. Stigler and Gary Becker argue that as a general methodological principle, economists should think first of changes in tastes as reflecting a change in the *product* itself, rather than as a distortion of consumer preferences. In this view, advertising can make *any* product a new product. As a consequence, advertising generally has large benefits for consumers. Is this argument reasonable? Can this "new product" view of advertising be extended to examples that appear to be persuasion?

One easy example is that an existing product might be advertised because a new use has been found for it. For example, aspirin acts as a blood thinner to reduce the risk of heart attacks. This raises the demand for aspirin because of information gleaned from studies of aspirin.

A less scientific example of a new use for an existing product is fast food. Fast food was once seen mainly as a summertime treat, but McDonald's pioneered the idea that fast food could be eaten in the winter, as a cheap break from the routine of home cooking. In the late 1960s, McDonald's used advertising on Macy's Thanksgiving Day parade and the Super Bowl to suggest to consumers that they didn't need to wait until summer to enjoy a Big Mac. In the wake of the advertisements, winter sales rose dramatically – and seasonal patterns were permanently affected. Similarly, consumers once thought long-distance phone calls were too expensive for chatting. As long-distance prices fell, AT&T's "Reach Out and Touch Someone" commercials, which urged consumers to call their relatives and friends long distance on Sundays, changed consumer phone habits permanently.

Advertising may act like a Post-it® note to remind us of products we have forgotten to buy recently.

Commercials may provide information through images that are an indirect or highly abbreviated form of communication. For example, an Apple iPod permits a consumer to carry around a lot of songs, effectively freeing the listener from having to carry a stack of CDs and a comparatively bulky player, and to move freely without the music skipping. All of this freedom is suggested by the hip/silly motions of the iPod silhouette dancers; this image would then lead a potential buyer of an iPod to engage in additional investigation before actually buying an iPod.

Also, the fact that a product exists doesn't mean we remember to buy it. In that case, advertising may act like a Post-it® note to remind us of products we have forgotten to buy recently. After all, habit is a tricky business. As consumers, we value both familiarity and variety. But because we have limited memory, it is hard to keep these in balance. We replace items we like with new items as we seek variety, but we may forget how much pleasure we got from the old item, until an advertisement reminds us to go back to it.

As TV viewers, we may be excessively irritated by advertising and see it as being uninformative because it isn't informing *us*. Most of the time, we aren't in the market for the car being advertised or have already decided what beer or vacation we prefer. The advertising is directed at someone else, someone more open to the subject of that product (who, we may feel, is a weak-willed victim of persuasive advertising). In this case, all the ad in question does is get in the way of our entertainment. If each person is enlightened by only 1 percent of all ads, the gains to advertiser and shopper may outweigh the costs. Advertiser and shopper would be better off if somehow advertising became less scattershot. But that doesn't mean that, given the technology at hand, advertising isn't informative in its impact.

Different observers will inevitably have different perceptions about the extent to which advertising is persuasive or informative. Nevertheless, as the importance of new products rises, the informative component of advertising is likely to rise with it, leading more people to believe in advertising's social benefit.[1]

[1] See my 2003 article on evidence for the growing — and substantial — amount of economic activity devoted to creating new products.

INFORMATIVE ADVERTISING: HOW VALUABLE?

Let's look a bit more closely at informative advertising. It is not like the normal economic products for which we can rely on Adam Smith's Invisible Hand to assure us that the market provides the right amount of economic activity in producing and consuming them. Usually, the Invisible Hand theory applies to products that competitors are free to duplicate and whose price, therefore, accurately reflects the cost of reproducing them.

Economists Gene Grossman and Carl Shapiro looked at this more complex product — advertising — and asked whether producers have the right incentives to produce informative advertising when there is more than one advertised product. They showed that there are two opposing forces: Information about products makes consumers better off ("consumer surplus") but at the expense of other producers ("business stealing").

Consumer Surplus. Information about a product increases the likelihood that a consumer will purchase a good that has more value to him than the goods he is replacing. The average new consumer reached by an ad would be willing to pay more for a product than the producer is asking, even though the producer is making an additional profit because of market power. To this extent, too little advertising is provided. The consumers who have not been reached by advertising would be better off if they could pay the advertiser to reach them, because they would gain more than the payment would cost them, but such payments are difficult to arrange.

Business Stealing. Advertising typically induces some consumers to switch from one firm with market power to another, thereby depriving the first firm of some monopoly profit. So some of the profit the second firm receives from the new consumption is "stolen" from the old producer. To this extent, producers have too much incentive to advertise. Put another way, the first firm would be better off if it could bribe the second firm not to advertise. But, again, this trade is difficult to arrange and moreover may violate anti-trust laws.

In addition to these two effects, however, when advertising includes entertainment as a byproduct, consumers derive an additional benefit. This makes it more likely that advertising is actually undersupplied. Moreover, because all new products need to be advertised, the additional costs of advertising may limit the creation of new products. So if we take advertisement into consideration, the arguments for subsidizing new products are likely stronger.

The rise of TV broadcasting in the 1950s also depended on advertising.

ENTERTAINMENT AS A BYPRODUCT OF ADVERTISING

Consider the advertising-fuelled rise of radio. Radio was a crucial development in the 20th century and took hold beginning around 1923. Radio broadcasts helped jazz burst out on a national and international scale, suddenly changing the course of world music and defining the decade of the 1920s as the Jazz Age. Other examples of radio's impact were FDR's fireside chats, baseball play-by-play, and the CBS symphony orchestra's performances.

The rise of TV broadcasting in the 1950s also depended on advertising, and much of the rise of the Internet was spurred by advertising. Of course, the compliment went both ways. These innovations lowered the cost of advertising. They saved resource costs while offering advertisers greater diversity in their ability to reach target audiences.

Stigler discussed the use of entertainment to attract buyers to information. He argued that the assimilation of information is not easy or pleasant and that buyers will assimilate it more easily in an enjoyable form – just as air conditioning a store makes shopping more enjoyable. Consumers are more likely to buy products whose information is broadcast in the most easily absorbed form.

Zero: An Uncomfortable Price for Economics. Entertainment that's a byproduct of advertising may fly beneath the radar of economics, however, because it has zero price and so zero sales in nominal terms. How can a good have a zero price if it is valued by consumers? This can happen if the good is sold along with another; that is, it is a *joint product*. When entertainment and the advertised item form a joint product, they are much like honey and pollination as the joint product of bees. If farmers are willing to pay a lot for pollination services, the supply of honey will soar and the price of honey could fall to zero if honey went into excess supply.[2] Similarly, entertainment and news may be free: Just as the price of honey might fall to

[2] When honey prices are high enough, beekeepers may have to pay farmers to situate their hives in their orchards. Thus, pollination services may have a positive price in certain circumstances, such as when farmers pay beekeepers to pollinate their fields; in other circumstances, pollen becomes an input into beekeeping and pollination has a negative price.

zero, advertising can make the price of an entertainment fall to zero.

The price of entertainment subsidized by advertising could also be zero because it is difficult to collect payments from the consumer. That is, the entertainment producer might prefer to charge consumers a positive price, but the cost of collecting the price might make that infeasible. For example, broadcast radio and TV function by sending signals off into the ether, where radios and TVs receive them for free. Nowadays these broadcasts can be sent encrypted, as they are with satellite and cable TV, to collect fees from the consumers. But back when radio and TV were first invented, the electronic devices capable of such coding and decoding were far in the future. So the technology made it necessary to have the broadcasts supported by advertising, rather than by direct sale.

WHAT IS FREE ENTERTAINMENT WORTH TO CONSUMERS?

How important have expenditures on entertainment been? Neil Borden's pioneering 1942 book on the economics of advertising introduced the notion that news and entertainment media are subsidized by advertisement and empirically estimated the size of the subsidy.

First, let's look at the heyday of radio. In 1935, total advertising expenditures on radio were $80 million, according to Borden, roughly 0.1 percent of GDP. Roughly half of that went to entertainment — payments to live talent, transcriptions of shows, and leases of phonograph records. Economically, this is small potatoes. Culturally, however, it was a revolution.

One piece of evidence for radio's revolutionary impact is the expenditures it displaced. As broadcast professional music substituted for music created in the home, sales of pianos and other home instruments fell. Economist F. M. Scherer shows that the timing of the decline of expenditures on home instruments coincided with the rise of radio sales: The explosion of radio sales from 1923 to 1925 coincided with a steep drop in piano sales, particularly player pianos.[3] In 1923, 344,000 pianos were produced in the U.S.; by 1929, the number had fallen to 121,000, a nominal sales decline of $67 million (U.S. Census of Manufactures, 1925 and 1931). And this is just one of the many areas affected. No doubt the ability to hear the CBS orchestra or Louis Armstrong on the radio raised the recreation enjoyed by consumers.

What about the rise of television? In a very nice study, Roger Noll and his co-authors present quantitative evidence on the monetary value of the rise of TV. How can we find out what consumers would pay for an item they receive for free? The answer Noll and his co-authors found was that some potential TV consumers could not receive broadcast for free, and they argued that the amount these viewers were willing to pay was a window into the value of TV for all consumers.

In sparsely populated areas of rural America, broadcasters did not find it worthwhile to send signals over the air; the cost of the transmitters could not be justified. A commercial solution that became available in the 1960s was community cable TV. The amount consumers who were not served by broadcast TV were willing to pay for receiving the broadcasts via cable is a clear measure of the monetary value of the usually free broadcasts. It turned out that, by 1969, 80 percent of households in areas served were willing to pay $5 a month for no-frills cable access to regular broadcast TV. Noll and his co-authors argued that consumers who did have access to TV broadcasts would have been willing to pay at least the same amount to receive the broadcasts, if they had had to. Five dollars a month, spread across 80 percent of all U.S. households, would have amounted to $3 billion, or about 0.4 percent of household income.

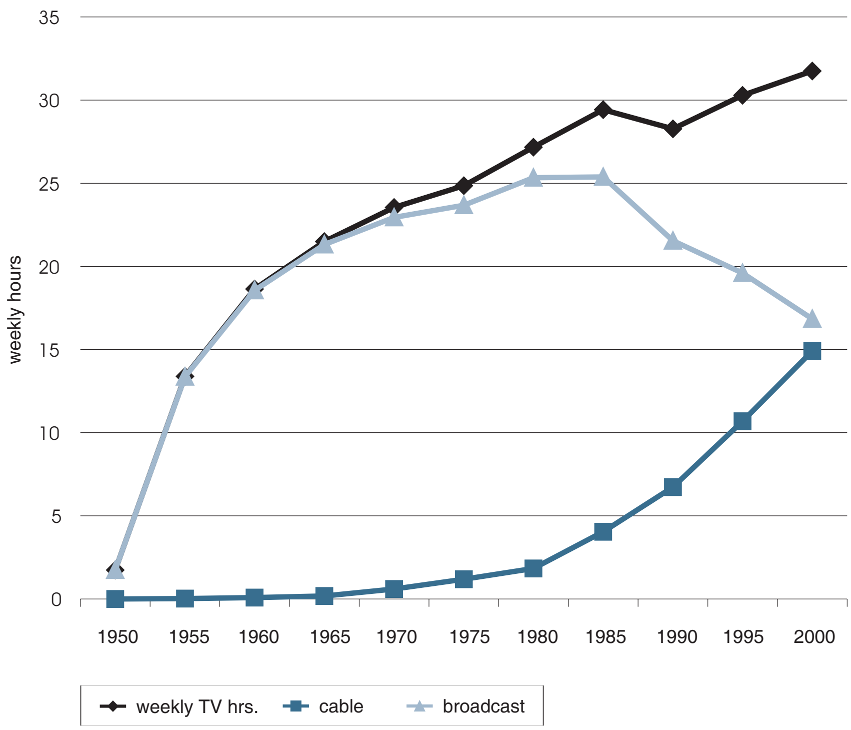
But this estimate is actually on the low side. When Noll and his co-authors did a careful job of estimating the total amount that consumers would have been willing to pay, they came up with a much larger number: 5.1 percent of household income in 1969. They arrived at this number by using variations in cable TV charges, characteristics of the households, and the availability of partial broadcast TV in some areas, to tease out exactly how much each of the three broadcast network channels was worth to consumers. (At the time, there were only three broadcast channels: CBS, NBC, and ABC.) The fact that in some areas one or two channels were available over the air enabled them to put a price on each additional channel, based on the reasoning that each additional channel available over the air should lower the demand for cable. However, the precise number (5.1 percent) depends on the exact type of equation used.

This raises the question: Is such a large number plausible? One measure of the impact on consumers is what they did with their time. Families stayed home in huge numbers to watch broadcast TV (Figure 1); by 1970, Americans were spending 22 hours a week watching. This is a striking shift in consumers' use of leisure time — plausibly one-fourth of weekly leisure time after we eliminate work (including household production ac-

[3] At the same time, the quality of phonographs was improving dramatically. Moreover, there was clearly a complementarity between radios and phonographs, as exposure to music over the radio encouraged sales of phonograph records.

FIGURE 1

Cable and Broadcast TV Weekly Viewing Hours



Note: These data splice together data on annual viewing hours for 1984 to 2000 from Veronis Suhler Stevenson published in the 1994, 1999, and 2003 *U.S. Statistical Abstract*, with average viewing per day data for 1984 and earlier from A.C. Nielsen from the *U.S. Statistical Abstract*, 1985 and earlier. The two series do not agree in 1984; the former gives 1,520 hours per year, which is 29.2 hours per week, while the latter gives 7 hours per day, or 49 hours per week. I forced the Nielsen data to equal the Veronis Suhler Stevenson data in 1984.

tivities), commuting, and sleep hours.[4] Clearly, free television outcompeted a lot of alternatives, both free and costly, for consumers' limited time. To get a better feeling for expenditures on leisure-time activities, consider those recreational and personal care activities that consumers pay for—which includes services such as movies, cable TV, beauty salons, golfing, and spectator sports, and goods such as books, electronic equipment, and toiletries. Consumers spent about 8 percent of their income in the late 1960s on these leisure-time goods and services, according to the U.S. Bureau of Economic Analysis. TV by then had become the dominant form of leisure, so perhaps a consumer value of 5 percent of income for TV is not implausible, although it may be an overestimate.[5]

Do we see this shift in consumer expenditures on alternative forms of recreation, the way we saw the decline in player pianos? Economists would have expected expenditures on recreational services, as a luxury good, to be rising as a proportion of expenditures, since per capita real incomes were rising and households could afford more luxuries. Instead, real recreational services fell as a proportion of expenditures in the 1950s (Figure 2). As happened with radio, consumers substituted TV for other forms of priced entertainment.

Thus, free entertainment and news played an important role in making consumers better off. We have already pointed out that corporations may be better off over sustained periods of time because of advertising. How might these factors figure into our calculations of the value of economic activity? Should they affect how we look at profitability and U.S. output? I will argue that the answer is yes.

ACCOUNTING FOR ADVERTISING

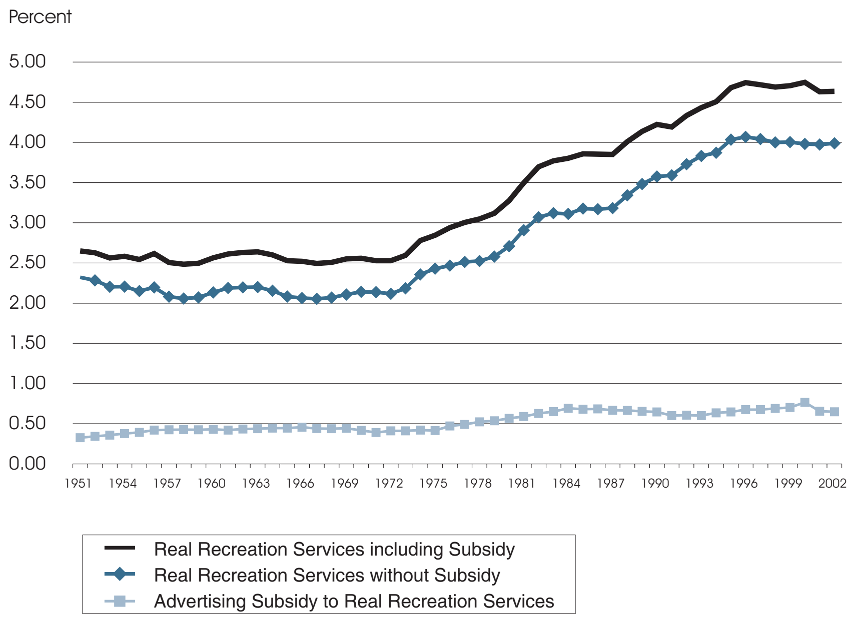
Let's consider how advertising appears in the national accounts. To take the elements of the analysis step by step, let's start by thinking about advertising without entertainment, and let's consider short-run advertising, whose impact is simply to raise sales in the same period in which the advertising is purchased. When a mail order company sends out a catalog of clothing items, the costs of the catalog

[4] Time diary data from the American Time Use Survey show that in 2004, Americans 15 and older spent 2.6 hours per day (18 hours per week) watching television as their primary activity. This does not count time when the television set is on but something else — such as eating or household chores — is the primary activity. Unfortunately, the time-use survey does not publish data on TV watching as a secondary activity. Even if we take the time-use survey as a better measure, the implication is still that watching television is a major leisure activity of American adults.

[5] Personal care and recreation does not include, for example, hotels, restaurants, foreign travel, air travel, cars and gasoline, household services, or religious and social welfare activities.

FIGURE 2

Recreation Services as Proportion of Personal Consumption Expenditures With and Without Subsidy



Source: U.S. Bureau of Economic Analysis and author's calculations from Nakamura (2004).

are paid for by the sales the company rings up from it. The costs of designing, printing, and mailing the catalog (the inputs) show up as income to those who created the advertising, while the catalog itself (the output) is simply considered part of the sweaters and other clothing sold. Thus, the advertising shows up nowhere in output, except as an ingredient of the items sold, just as the cost of the warehouse where the sweaters were stored is an ingredient.

The same thing holds true for advertising with entertainment. When a "Seinfeld" rerun appears on TV, its cost and its entertainment value are considered just like the postage in a direct mail solicitation — from the perspective of the national accounts, the entertainment's only value is to sell the advertised product.

Entertainment. How should our official national income measures account for the benefit gained from entertainment that is a byproduct of advertising? If we are to accurately measure economic growth in the U.S., we should include the contributions of radio and TV broadcasts to consumption. Normally, entertainment is included in personal consumption expenditures according to its total sales. But the total sales of radio and TV broadcasts are zero, despite their quantity being positive, because their price is zero to the consumer.

But when these zero-price products became available, consumers were very much better off than they had been, as has been documented. How might we show a sensible, positive value for consumers? One way to measure the contribution would be to argue that the free entertainment services paid for by advertisers, e.g., Jerry Seinfeld's salary for TV performances, would have been paid for by consumers. After all, these entertainment services are bid away from alternative paid entertainment venues (e.g., Jerry Seinfeld's forgone Las Vegas revenue). If the economy is reasonably efficient, Jerry Seinfeld's TV performances are more valuable to consumers than his potential Las Vegas performances, so the measure is a reasonable minimum.

If we value this entertainment at cost, taking Seinfeld's salary as this cost, we are taking an approach parallel to that of other zero-priced products, such as government-supplied education. That is, in the national accounts we value public education at its cost.

Suppose that radio and TV entertainment services paid for by advertisers amount to 20 percent of recreational services paid for by consumers, as they did for much of the 1960s and 1970s. Then we can estimate that the effect of these services is to increase the total real quantity of recreational services 20 percent. So real expenditures go up 20 percent. Nominal expenditures are unchanged (since these services are being supplied at zero price). The net effect is to reduce the price of recreational services. This makes sense: The consumer has obtained 20 percent more services without spending any more. The effect of this calculation for radio and television is shown in Figure 2, where we have mapped out the part of ad expenditures on radio and television that go to providing consumer entertainment.

Note what has happened here. A dollar of advertising shows up in more than a dollar's worth of output. It shows up in the value of the advertised product as a dollar's worth of extra value for the consumer and the advertiser. How sizable is this extra value? In my 2004 working paper, I have made some rough estimates of the part of advertising that goes into consumer entertainment. There I have estimated that for each dollar spent on broadcast television advertising, some 60 cents of free entertainment is produced — raising recreation output without raising costs. Because broadcast TV and radio advertising expenditures amount to about $60 billion, entertainment is boosted by $36 billion. Advertising has become an unusually productive economic activity. According to my rough estimates, if we add in contributions to all media, advertising adds close to $70 billion in entertainment consumption to U.S. output.[6]

Advertising in Corporate Income and Expense Accounting. Let's briefly go over the issue of how to best incorporate advertising in corporate income and expense accounting, an issue I've already addressed in more detail in my 2003 article on intangibles.

Currently, advertising expenditure is typically expensed; that is, the total cost is recognized immediately and subtracted from income. This is the correct treatment of advertising to the extent that profits are recouped during the same period in which expenses are laid out. For example, a department store or an auto dealership advertising a Thanksgiving weekend sale will garner all the value from this advertising in that weekend, and it is properly expensed. A going-out-of-business sale is the pure type of an advertising expense that has no long-run value.

The principle here can be illustrated by considering a $10 million machine that lasts 10 years and creates $2 million worth of value each year. One way to account for it would be to expense it in the first year of production. The firm would show a loss of $8 million in the first year, and a profit of $2 million in all the others. The alternative is to capitalize the investment and expense it over the 10 years of its useful life. The firm's expenditure would show up as a $10 million capital item, whose value depreciates $1 million each year. Only the depreciation would show up on the income and expense statement. If we do this, the firm shows $1 million in profit each year. Accountants have decided that this latter approach makes more sense for physical investments, since, in fact, the firm is not doing poorly the first year and suddenly improving for the rest of the decade but is making a nice profit each year.

Unfortunately, it is not easy to analyze how advertising can have very long-lived value.

So if Apple spends $150 to manufacture an iPod and $50 to advertise it, then sells it for $200, its profit is zero — provided the advertising has not created a durable asset, such as brand loyalty, for Apple. But if the advertising makes it possible for Apple to continue to sell iPods for nine more years without continuing to advertise, the advertising should be expensed over the 10 years that Apple sells the product. Advertising that confers a long-term advantage in the marketplace should be capitalized and depreciated, which spreads out the expense over the useful life of the advertising. For example, some products, such as prescription drugs, have strong temporary monopolies, and advertising for them may properly be depreciated over the patent's lifetime. Other products, such as breakfast cereals and cola beverages, build brand loyalty that can last for many years.

A practical difficulty is that it may be hard to know in advance how long-lived advertising is going to be. How long will iPod be a successful product? Will the consumers who are led to buy a product continue to think that it's a good product – or will a new product offer greater value?

Many articles have explored the longevity of advertising and obtained different results. What most of the studies have shown is that not all advertising is long-lived, but they also suggest that at least some advertising is long-lived. The general practice of expensing advertising of new products will result in profits being understated in the short run and overstated in the long run. This problem is similar to that associated with the expensing of research and development.

Unfortunately, it is not easy to analyze how advertising can have very long-lived value. Even when one can build up such a picture, it is difficult to analyze with certainty how much of a company's or an industry's long-lived market power is due to advertising. While a few studies, such as Aviv Nevo's study of the ready-to-eat breakfast cereal industry, have very carefully attacked the question of how long-lived market power and profitability can survive, there are not enough

[6] There are two ways in which advertising should be included in the national income accounts but is not. One is that the entertainment subsidized by advertising should be included in personal consumption expenditures. The other is that some proportion of advertising expenditures should be considered investment. Until this proportion is estimated and included in investment, gross investment in advertising will be underestimated in the national income accounts, where it is all treated as if it were short-lived. See my 2003 paper for additional discussion.

such studies to form a coherent picture of long-lived advertising power.

One avenue that needs greater pursuit is the relationship between advertising and new products. To the extent that new products create permanent gains in consumption, advertising may be said to have a permanent asset value to society. This is a line of research where much empirical work remains to be done.

CONCLUSION

What do we make of advertising? One view is that advertising is wasteful, annoying, and distorting. There may well be a significant part of advertising that fits this view. But there is a very large, and growing, portion of advertising that is informative and constitutes a social benefit, as is the case with most economic activity. Moreover, we have identified a part of advertising – the part that subsidizes entertainment – that contributes to consumer welfare but has not been counted in output. When we add up advertising's contributions, they appear to be substantial. Two cheers for advertising — or maybe four?

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After the Baby Boom:

Population Trends and the Labor Force of the Future

BY TIMOTHY SCHILLER

Over the past 40 years, the baby boom generation's participation in the workforce and women's increased presence in the workplace have had a large effect on the American labor force and the nation's economic growth. But as the baby boomers start to retire in large numbers and women's participation in the workforce levels off, what effect will this have on the U.S. labor force and the nation's economy? More specifically, how will these factors affect the economies of the Third District states? In this article, Tim Schiller describes the issues associated with these and other demographic shifts and their impact on the local and national economies.

The U.S. economy has grown at an annual rate of around 3.4 percent, adjusted for inflation, over the past 50 years. An important factor in achieving that pace of economic growth has been an increase of about 1.7 percent annually in the supply of workers. This relatively rapid growth in the labor supply has been the result of two factors: the entry of the baby boom generation into the labor force, and the increasing participation of women in the labor force. Those two factors are now poised to fade, and labor force growth will ebb as a large cohort of workers reaches retirement age and as women no longer swell the ranks of the labor force. For output growth to continue at its pace of the past half-century in the face of slower labor force growth, workers' productivity will have to grow more rapidly.

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A slower-growing, aging labor force will make it difficult to meet the need for workers in some major industries and occupations in the nation and in the Third Federal Reserve District. The issues associated with these demographic shifts are likely to be more acute in the tri-state region than in the nation because the region's population is older, the labor force is projected to grow more slowly, and the occupational and industrial mix in the region is more heavily concentrated in those jobs for which demand is projected to grow and the supply of workers is likely to be tight. Alternatively, the region's favorable mix of industries and occupations—it's concentration in education and health care—could give the region an advantage in attracting more workers to meet the growing need.

THE FUTURE SUPPLY OF WORKERS

To project the supply of labor, we need to understand the factors that influence the number of workers in the economy. The basic factor is the size of the working age population, which includes all those 16 years of age and older. They are not all in the labor force, however. Only a percentage of the working age population is working or available for work, and this percentage is called the labor force participation rate. It differs by age, sex, race, and ethnicity. So projections of the overall population are only the starting point for estimating the labor force. To estimate the size of the total labor force, we also need population projections by age, sex, race, and ethnicity and projections of their labor force participation rates.[1]

The Slowing of Labor Force Growth. The Bureau of Labor Statistics (BLS) projects a slowing of growth in the labor force, from a rate of 1.7 percent per year between 1950 and 2000 to just under 0.8 percent

[1] Labor force participation rates also vary over the business cycle, typically falling during recessions and rising during expansions, but in this article the focus is on long-term trends in participation rates.

per year between 2000 and 2050. (For the BLS's projection methodology, see *Projecting Population and Employment.*) The slower growth projected for the labor force reflects both a decline in population growth and a decrease in overall labor force participation.

The BLS takes its population projections from the Census Bureau. And the Census Bureau projects that overall population growth will gradually slow from an annual rate of around 1.2 percent from 1990 to 2000, to less than 1 percent in this decade, then to less than 0.7 percent by the middle of this century. The Census Bureau projects that the fertility rate (the number of children born per woman during her lifetime) will increase slightly during the first half of the century, the death rate (the number of deaths as a percent of the total population) will increase, and the annual number of immigrants during the projection period will be similar to the current rate of around 1 million. The combined result of these projected changes is a projected slowing in population growth over the projection period, 2000 to 2050.

To these population factors, the Bureau of Labor Statistics adds its own projection of labor force participation to estimate the future growth of the labor force, and this projection is also for slower growth or a leveling off in the participation rate.

Three factors account for the projected slowing of labor force growth. In order of significance these are: 1) slower growth in the age group with the highest labor force participation; 2) an end to the increase in women's labor force participation; 3) a decline in the number of immigrants in relation to the total population and labor force.

Typically, labor force participation begins at age 16 and declines significantly around the usual retirement age of 64. Although there are indications that more workers will remain in the labor force past normal retirement age in the future, the population in the 16 to 64 age group supplies the bulk of the labor force, and it is expected to continue to do so. In the current decade and in the years after 2030, the 16 to 64 age group will grow at about the same rate as the overall population. However, from 2010 to 2030 the increase in this group will be between 0.2 and 0.3 percent, much lower than total population growth, because the baby boomers will be moving out of this age group (Figure 1). As they do so, their labor force participation will decline, reducing the growth rate in the overall labor force.

The aging of the baby boomers will also contribute to the second factor tending to reduce the growth rate of the labor force: a reversal in the growth of women's labor force participation rate.[2] Women's labor force participation rate increased from 34 percent in 1950 to 60 percent in 2000. It is projected to rise to 62 percent in 2012, then decline to 57 percent by 2050 (Figure 2). A large part of the decline will be the result of the aging of baby boom women and the fact that women typically retire at earlier ages than men. This will act as a brake on the growth of the overall participation rate for women. But not all of the decline in women's participation rate is due to the aging of the population. The Bureau of Labor Statistics projects declining participation among women of all ages by 2030.

As noted earlier, immigrants will make up a declining proportion of the population and labor force. This will affect labor force growth in two ways. First, immigrants will add proportionally less to the overall labor force in the future. Second, immigrants tend to have higher labor force participation rates than the rest of the population, so their relative decline in the labor force will result in an even greater decline in the overall labor force participation rate.

The aging of the baby boomers will also contribute to the second factor tending to reduce the growth rate of the labor force: a reversal in the growth of women's labor force participation rate.

An Older and More Diverse Labor Force. During the next several decades, demographic changes will influence the composition of the labor force in two ways: it will become older as we have already indicated, and it will become more diverse with respect to race and ethnicity.

As the baby boomers entered the labor force in the 1970s and 1980s, the percentage of young workers went up and the percentage of older workers went down. As the boomers age, the percentage of older workers will increase. The percentage of the labor force that is 55 and older will rise from around 13 percent in 2000 to around 20 percent in 2030. Then, as the boomers retire, the percentage of older workers will decline somewhat, to around 19 percent in 2050 (Figure 3).

Besides the aging population's effect on raising the median age of the work force, the average retirement age will likely rise in the future. The BLS projections take this possibility into ac-

[2] Men's participation rate has been declining for more than 50 years, and projections show it will continue to do so.

Projecting Population and Employment

The U. S. Bureau of Labor Statistics (BLS) publishes 10-year projections of the labor force and employment every two years. The latest projections were published in 2004 and cover the period from 2002 to 2012.[a] The Bureau also occasionally publishes longer term projections of the labor force, but not employment. The latest, published in 2002, extends to 2050.[b]

The starting point for employment projections is projected population growth. The BLS uses the Census Bureau's middle-series projection. This projection is derived by combining the mid-range forecast of the birth rate, death rate, and international immigration among the various age and race cohorts that make up the total population.[c] The middle series assumptions for the total population are that the birth rate will remain close to its present level, the death rate will increase, and international immigration will decrease over time relative to the size of the U.S. population. Immigration is still expected to add significantly to the total population, but because the number of immigrants is projected to be constant, based on current law and recent net immigration patterns, immigrants are expected to contribute less to both population growth and total population in the future.

(box continues on next page)

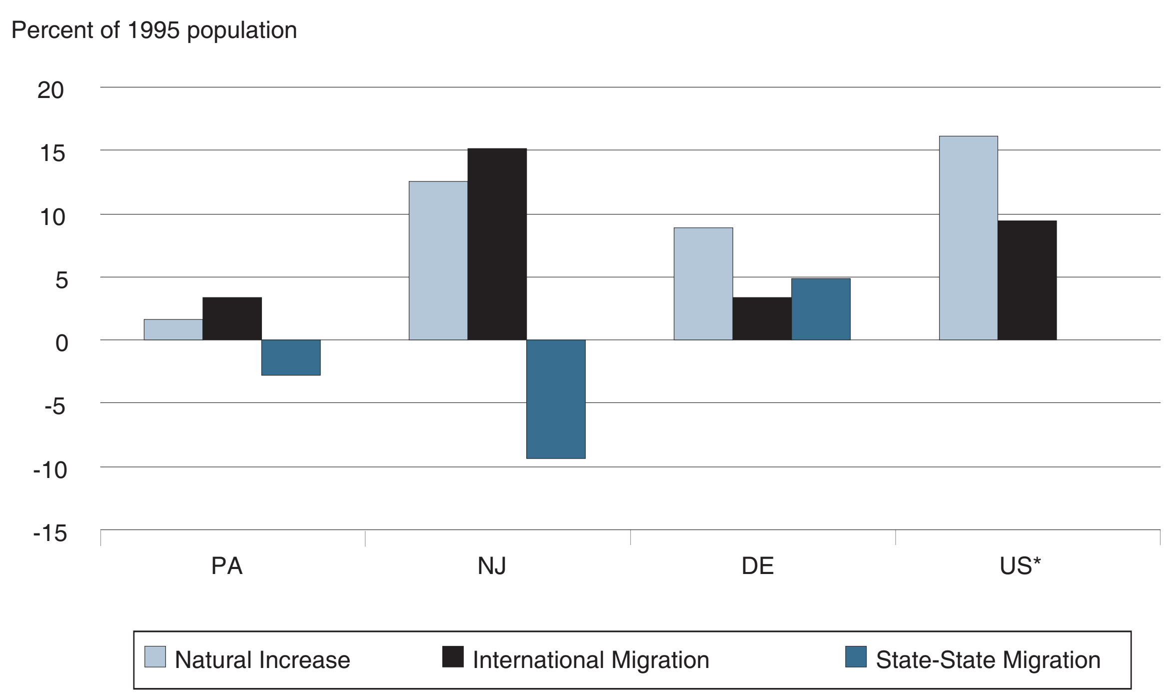
[a] See the article by Michael Horrigan and the ones by Mitra Toosi.

[b] See the articles by Mitra Toosi.

[c] See the article by Frederick Hollman and co-authors.

FIGURE

Components of Population Change 1995-2025



*State-to-state migration does not affect the total U.S. population.
Source: U.S. Census Bureau

Projecting Population and Employment

In projections of state populations the Census Bureau takes into account likely state-to-state migration and international immigration in addition to the natural increase in the state's population (the birth rate minus the death rate). Through 2025, each of these factors is projected to affect population growth in different ways for the three states of the region: Pennsylvania, New Jersey, and Delaware (see the accompanying chart).[d]

Each of the three states is expected to gain proportionately less from natural increase than the nation. In Pennsylvania, the natural increase in the population is expected to be slight. The state is expected to experience little international immigration and net outward migration to other states. New Jersey's natural increase and net international migration is projected to be the highest among the three states. The projections suggest the state will continue to have a higher rate of international immigration than the nation. Some of the international migration is expected to be offset by high levels of out-migration from New Jersey to other states. Among the three states in the region, only Delaware is projected to gain population from all three sources: natural increase, international immigration, and state-to-state migration.

For employment by industry and occupation, the BLS projections are based on a combination of a projection of the total number of available workers and a projection of the economy's growth during the projection period.[e] In other words, the employment projection assumes the economy will grow at a steady trend rate with all available workers employed. For the 10 years from 2002 to 2012, the BLS projects real GDP will increase at an average annual rate of 3.0 percent, slightly below the 3.2 percent average annual rate of the previous 10 years.[f]

[d] The latest projections of state population, based on the 2000 census, extend to 2030, but they do not include details of the components of population change. However, the previous projection, based on the 1990 census, does include details of these components, but it extends only to 2025.

[e] See the article by Michael Horrigan.

[f] See the article by Betty Su.

count by projecting a rising labor force participation rate for the 55- to 64-year-old age group in the short term.[3] In fact, recent data indicate that labor force participation among both men and women age 55 and older has risen.[4] The major reasons for this are related to retirement financing. The minimum age to receive full Social Security benefits is rising, and some workers will delay retirement until they qualify for full benefits. Furthermore, there is a trend away from reliance on defined benefit plans to more participation in defined contribution plans, which are more financially rewarding to those who work beyond normal retirement age.[5]

There is also some evidence that baby boomers are more interested than earlier generations in continuing to work in some manner during "retirement." Surveys in recent years indicate that more people currently employed plan to work beyond age 65 than did workers in previous generations.[6]

Changing demographics will affect not only the median age of the labor force but also the racial and ethnic composition. Because projected immigration is expected to be made up largely of Asians and Hispanics, and because these and other minority racial and ethnic groups have greater birth rates than other population groups, most minority ethnic and racial groups will increase their share of the population and the labor force (Figure 4).[7] In

[3] See the article by Sophie Korczyk and the 2004 article by Mitra Toosi.

[4] See the article by Katharine Bradbury.

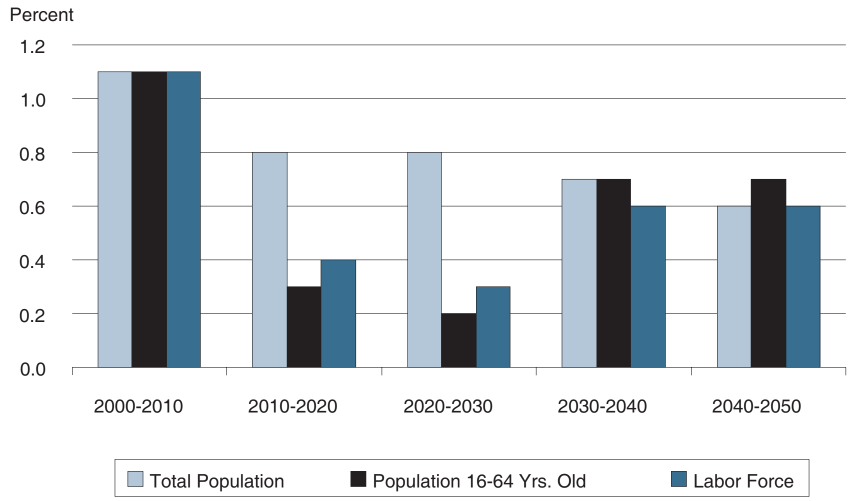
[5] Defined contribution plans are those in which employees making periodic payments to retirement funds (such as 401k's) through payroll deductions. Their retirement income depends on the investment return to the fund. Defined payment plans are those in which the employer promises a fixed retirement payment to employees based on salary and years of employment. A growing number of firms are placing limits on the retirement pay earned under defined benefit plans; in response, workers are turning to defined contribution plans to boost prospective retirement income.

[6] See the article by Christopher Reynolds, and the 2003 publication from AARP.

[7] For example, the birth rate (number of births per 1,000 persons) for Hispanics is 22.6, for blacks it is 16.1, and for non-Hispanic whites it is 11.7 (National Center for Health Statistics, 2003).

FIGURE 1

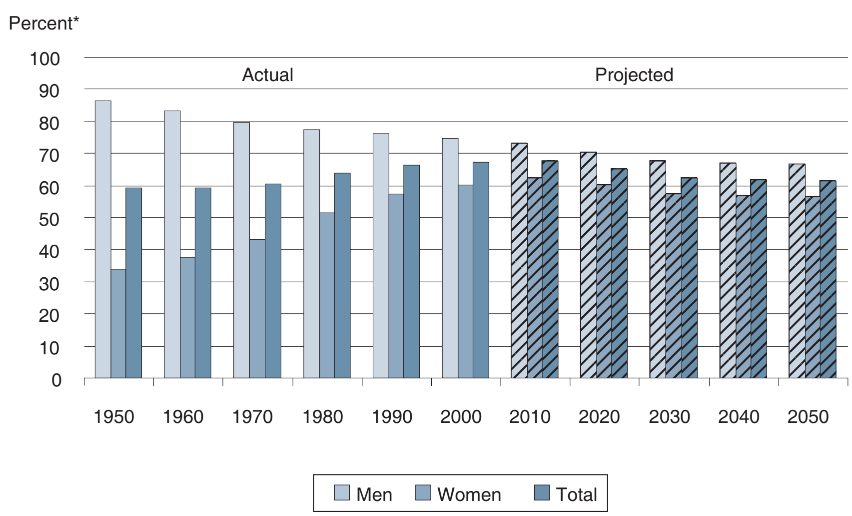
Projected Annual Growth Rates of U.S. Population and Labor Force



Source: Bureau of Labor Statistics

FIGURE 2

Labor Force Participation Rate*



* Of population 16 years and older

Source: Bureau of Labor Statistics

addition, their labor force participation is projected to rise.

THE FUTURE DEMAND FOR WORKERS

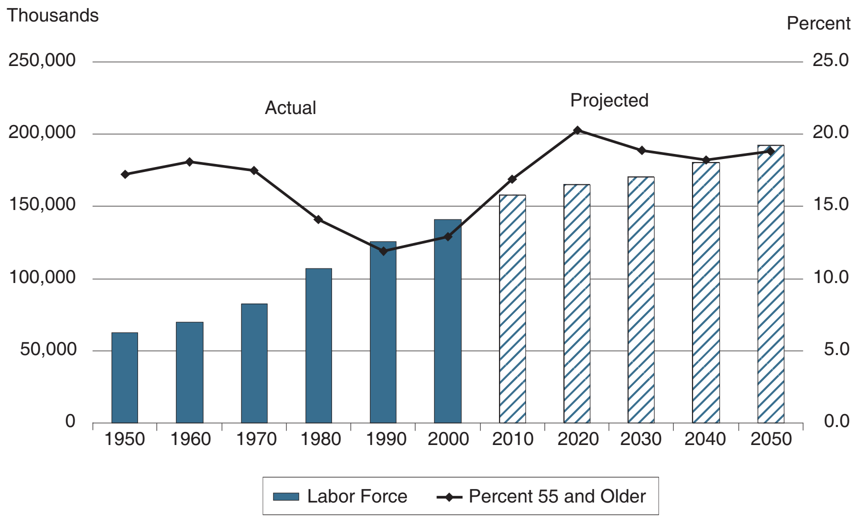
A smoothly functioning economy requires a match between the skills of available workers and the job requirements of the industries and by occupations that need workers. These job requirements will change as the demand for different products and services changes, and as the technologies that workers use evolve. So, in addition to projections of the labor force, the Bureau of Labor Statistics also projects employment by industry and occupation.

Labor economists classify employment in two ways: by industry and by occupation. Every worker is counted in both of these classifications. In industry classifications, every worker is assigned to an industry according to the kind of good or service produced by the firm in which he or she is employed. In occupational classifications, every worker is assigned to an occupation according to the kind of work he or she does. (See *Major Industrial and Occupational Classifications* for examples of the major categories of industries and occupations.) For some jobs, the occupational classification is closely associated with an industry. For example, most physicians are self-employed or work for firms that directly provide health-care services, so most are counted in the health-care industry. However, some might be employed in other types of firms—a manufacturing firm, for example—and would therefore be counted as working in the manufacturing industry. Regardless of the industry in which they work, all physicians are counted as health-care practitioners within the professional occupations category.

For other jobs, the occupational classification is not so closely associ-

FIGURE 3

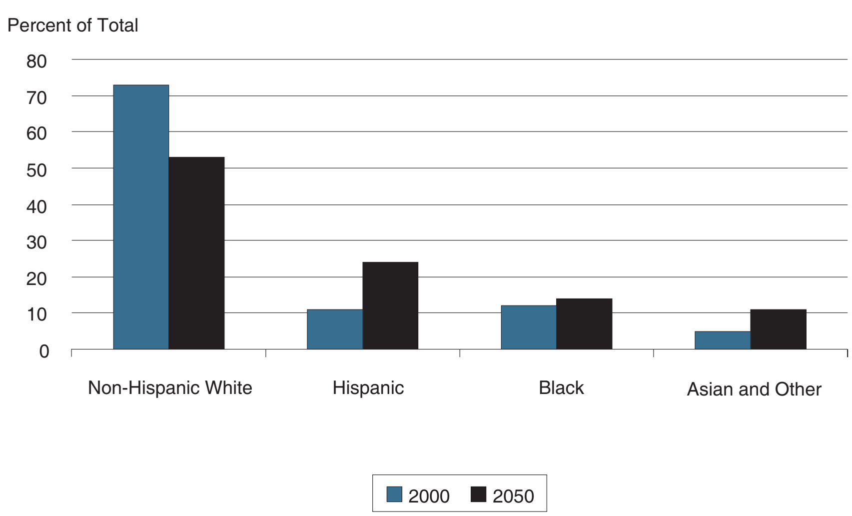
Labor Force



Source: Bureau of Labor Statistics

FIGURE 4

Racial and Ethnic Composition Of the Labor Force



Source: Bureau of Labor Statistics

ated with an industry. For example, all computer programmers are counted in the computer and mathematical science occupations group of the professional occupations category. But many work for banks, part of the financial industry, as well as in many other industries such as manufacturing and education, and they are counted as working in those industries.[8]

Growth in Service Industries and Professional and Nonprofessional Service Occupations. In general, demand for workers in professional and service occupations is expected to increase. Among occupational categories, the BLS projects that employment in the two largest—professional and related occupations, and service occupations—will grow the fastest in percentage and absolute terms to 2012 (Figure 5). Together, these occupations will account for more than half the total job growth to 2012.[9] Among the industry categories, job growth from 2002 to 2012 will be concentrated in services.[10] The services industries with the strongest projected employment growth—both in absolute and percentage terms—are education and health services, and professional and business services (Figure 6).

A major factor in future demand for workers by industry and occupation

[8] A potential source of confusion is the use of the word "service" as both an industry and occupational classification. There are many service industries, such as professional and business services, education and health services, etc., in which there are workers in many occupations. Jobs in these industries have a large range of educational requirements and pay. Service occupations, however, are more narrowly defined. The largest service occupations are health-care aides, policemen and firemen, food preparation workers, and building and grounds maintenance workers. Most of the jobs in the service occupations are at the lower end of the scale of educational requirements and pay.

[9] See the article by Daniel Hecker.

[10] See the article by Jay Berman.

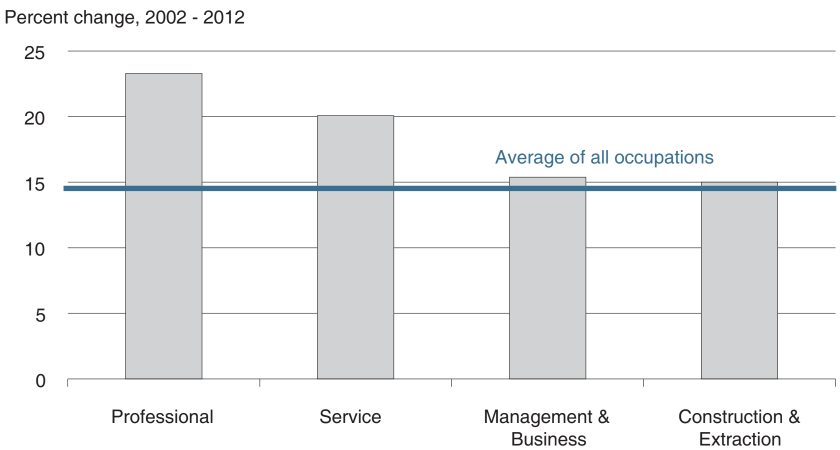
Major Industrial and Occupational Classifications

Industries are categorized according to the output of establishments. Occupations are categorized according to the jobs that individuals perform. People in most occupations can work in one of several industries, and every industry employs persons in many occupations.

Industry	Types of Firms (major categories)
Mining	Oil and gas extraction, mining
Utilities	Electric utilities, natural gas utilities, water systems, sewage systems
Construction	Building, utility, highway and bridge construction, specialty contractors
Manufacturing	Food, textile, paper, chemicals, metals, metal products, machinery, computer, electrical equipment, transportation equipment, furniture
Trade	Wholesale, retail
Transportation	Air, water, and land transportation, warehousing, pipelines
Information	Publishing, motion pictures and sound recording, broadcasting, Internet, telecommunications, data processing
Finance	Banks, savings institutions, credit unions, securities firms, insurance, commodities firms
Real Estate and Rental	Real estate lessors, real estate agencies, rental and leasing services
Professional Services	Legal, accounting, architectural, engineering, computer, management, scientific, advertising, and marketing services
Administrative	Employment services, business support services, travel services, waste management
Education	Elementary and secondary schools, colleges and universities, trade schools
Health and Social Care	Offices of physicians and dentists, outpatient care centers, medical laboratories, home health-care services, hospitals, nursing and residential care facilities, social services, child day care services
Arts, Entertainment	Performing arts companies, spectator sports, amusement and gambling facilities
Accommodation	Travel accommodations, food service and drinking places
Other Services	Auto repair, equipment repair, personal and laundry services
Occupation	**Types of Jobs (major categories)**
Management, Business	Executives and managers, accountants, business analysts, purchasing agents, human resource specialists, financial specialists
Professional	Computer and mathematical occupations, architects, engineers, scientists, social workers, lawyers, teachers, librarians, artists, performing artists, athletes, physicians, pharmacists, health-care technologists, nurses
Service	Health-care aides, law enforcement and protective occupations, food preparers and servers, building maintenance workers, personal care workers
Sales	Retail sales workers, rental clerks, real estate agents, sales agents
Office, Administrative	Financial clerks, records clerks, couriers and dispatchers, secretaries, office support workers
Farming, Fishing	Farm, fishing, and logging workers
Construction, Extraction	Construction trades, miners, oil and gas drilling workers
Installation, Maintenance	Electricians, mechanics, equipment repairers
Production	Manufacturing production workers, machinists, printers, woodworkers, power plant operators
Transportation	Aircraft pilots, motor vehicle drivers, railroad workers, water transport workers, material moving workers

FIGURE 5

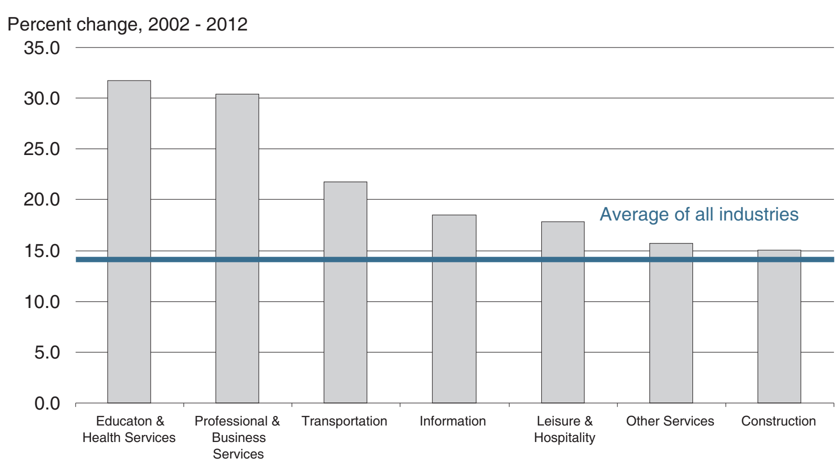
Occupations with Greater than Average Projected Growth



Source: Bureau of Labor Statistics

FIGURE 6

Industries with Greater than Average Projected Growth



Source: Bureau of Labor Statistics

is the aging of the nation's population. An aging population will increase demand for health services, so demand for workers in this industry will grow. By occupation, the bulk of workers in this industry will be medical practitioners (for example, physicians, pharmacists, and nurses), part of the professional occupations category, and nonprofessional service occupations (for example, health-care aides and assistants). Other occupations that will be in demand to serve an aging population will be personal care workers (within the services occupations) and social workers (within the professional occupations). These two occupations can be found in a variety of industries and in government agencies.

The other major factor in future demand for workers by industry and occupation is changing technology. The increasing capabilities of computer and telecommunications technologies will increase the demand for workers in the information services industry, which includes firms that create computer software and provide Internet services, for example. Furthermore, continuing advances in the automation of business functions will increase demand for workers in computer-related occupations in all industries. The automation of manual work has been at least partially responsible for the decline in manufacturing employment over the past several decades, and it is increasingly affecting nonmanufacturing work, as well. In fact, automation is one of the reasons that office and administrative occupations are projected to have the slowest growth among occupational categories except for production (mainly manufacturing) and agricultural occupations.

Employment growth in the professional and business services industries is also projected to be strong, and this will drive growth in management and business occupations. Firms provid-

FIGURE 7

Occupational Job Openings Projections
(Number of Openings, 2002 - 2012)*

*Ranked by number of replacement openings. Numbers at end of bars are replacement openings as percent of total openings.

Source: Bureau of Labor Statistics

ing employment services, including temporary staffing firms, and those providing business consulting on management, human resource administration, marketing, and scientific and technical matters are expected to grow. Here again, technological change is an influence, as advances in telecommunications and the standardization of information technology have increased the outsourcing of business functions, which these service industries provide.

The BLS also projects growth in the educational services industry. The BLS projects rising enrollments in post-secondary institutions as the children of the baby boomers reach college age and as workers of all ages demand more training throughout their careers. This is another instance of the influence of technological change on labor demand: the anticipated need for more job training, and the educators to provide it, is at least partly a result of workers' need to keep pace with advances in the technology used in the workplace. Although the BLS projects flat enrollments for preschool through secondary levels, it projects that increases in hours of operation and reductions in class size will necessitate higher employment. Because the bulk of educational services is provided through state and local governments, the projected increase in demand for education will underpin growth in government employment.

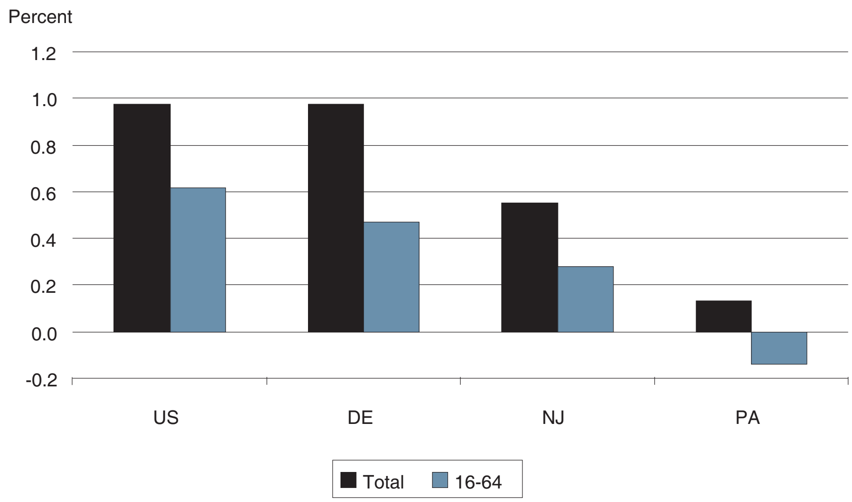
Replacement Needs May Differ from Growth. As baby boomers retire, the need to replace them will be more pressing in occupations in which large proportions of current workers are members of the baby boom generation.[11] Thus, the occupations with the greatest percentage or number of additional jobs may not be the occupations with the largest number of job openings. Among broad occupational categories, service, office, professional, and sales occupations will have the largest replacement needs (Figure 7).[12] Some specific occupational categories, such as truck drivers, teachers, physicians, nurses, and managers and administrators, have large numbers of baby boomers, and these occupations will face large replacement needs as baby boomers retire. So job seekers in the future will have opportunities in industries and occupations that are not growing but that will have large numbers of job openings due to replacement needs.

[11] See the article by Arlene Dohm.

[12] Other industries with large numbers of baby boomers — mainly, manufacturing and farming — have had declining employment. So the need to replace workers in those industries will not be as great.

FIGURE 8

Projected Annual Population Growth 2000-2030



Source: Bureau of the Census

THE FUTURE LABOR FORCE IN THE REGION

Just as slower population growth will set an upper limit on labor force growth for the nation in the decades ahead, it will also limit labor force growth in the three states of the Third Federal Reserve District: Pennsylvania, New Jersey, and Delaware. The industries and occupations projected to have strong growth in the nation—services and professions—are also projected to have strong growth in the three states.

Slower Population and Labor Force Growth in the Region. As mentioned earlier, national population growth is projected to slow from about 1.3 percent per year from 1970 to 2000 to a bit less than 1 percent per year from 2000 to 2030 (the latest year for which we have state projections). Population growth in Pennsylvania, New Jersey, and Delaware is also projected to be slower from 2000 to 2030 than it was in the preceding 30 years. Pennsylvania and New Jersey are projected to have slower population growth over the projection period than the nation, and growth in Delaware is projected to match the national growth rate.

In the region as in the nation, the 16 to 64 age group is projected to grow more slowly than the total population from 2000 to 2030 (Figure 8). This age group will increase in New Jersey and Delaware, but at a slower rate than in the nation. In Pennsylvania, the 16 to 64 age group is projected to decrease from 2000 to 2030.

Future Industry and Occupational Employment in the Region. The service industries are projected to have the most rapid growth in employment in the region, as they are in the nation (Figure 9).[13] The region already has a relatively high concentration of employment in education and health-care industries, and these are projected to have high growth rates. Occupational projections for the region are also much like those for the nation, with likely gains in high-skill health occupations and both high-skill and low-skill service occupations (Figure 10).

The pattern of industry and occupational employment projections is very similar for Pennsylvania and New Jersey. Total growth is projected to be lower for Pennsylvania than New Jersey, but the top industry categories are the same for both states: professional and business services and education and health (though the order in the two states is reversed). As in the U.S., occupations in professional and business services will be the fastest growing.

Projections for Delaware are different. Education and health services are not top industry categories. The top category is transportation and warehousing, where employment is projected to grow as major national retailers establish distribution facilities in the state. In terms of occupations, management and business will grow fastest; professional jobs are only the fourth fastest growing.

In the Third Federal Reserve District, the largest metropolitan area is Philadelphia-Camden-Wilmington, which consists of 11 counties in Pennsylvania, New Jersey, Delaware, and Maryland. There are no forecasts of industry or occupational employment growth for this entire metropolitan area. However, the Delaware Valley Regional Planning Commission has forecast annual employment growth

[13] In both Pennsylvania and New Jersey employment in agricultural industries and occupations is projected to have large percentage increases, but the number of current jobs and the absolute increases are very small in both states.

for the Pennsylvania-New Jersey portion of around 0.6 percent from 2000 to 2030. This is a considerably slower rate than the nearly 1 percent annual growth from 1970 to 2000.

It is important to keep in mind that both the industry and occupational employment projections are based on demand, while the labor force projections are based on supply, determined by population growth and labor force participation. As noted earlier, many of the workers in the industries and occupations with growing demand are close to retirement age now. This is especially the case for the education and health-care industries. Projected increases in demand for these industries and projected increases in the number of workers retiring from them will make it difficult to replace and increase the number of workers available to meet the growing demand.

This issue is especially important for our region because the education and health-care industries are a larger part of the regional economy than they are in the nation. Like the national projections, the state employment projections assume the jobs required for economic growth will be filled, with a limit set by the projected population. With slow growth projected for the regional population, it is possible that education and health-care employers in the region will face more difficult times ahead in meeting their staffing needs. Conversely, it is possible that the region will be able to attract more workers than is currently anticipated precisely because it is a center for these industries with growing demand and therefore growing employment opportunities. So besides presenting a challenge to the region, the demographic factors that will influence the labor markets in the years ahead also present the region with an opportunity to build on its strengths.

FIGURE 9

Industries with Fastest Projected Growth

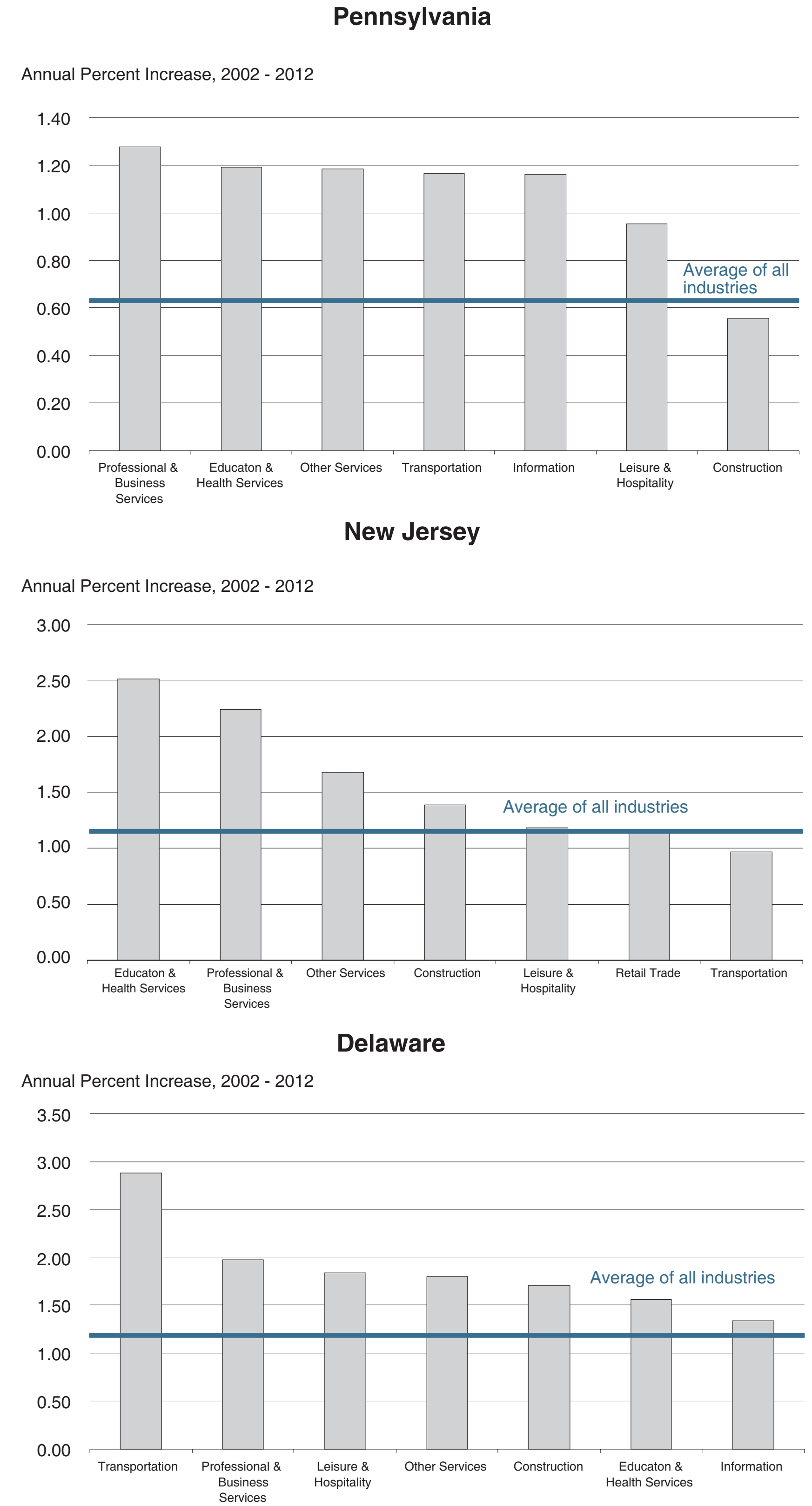
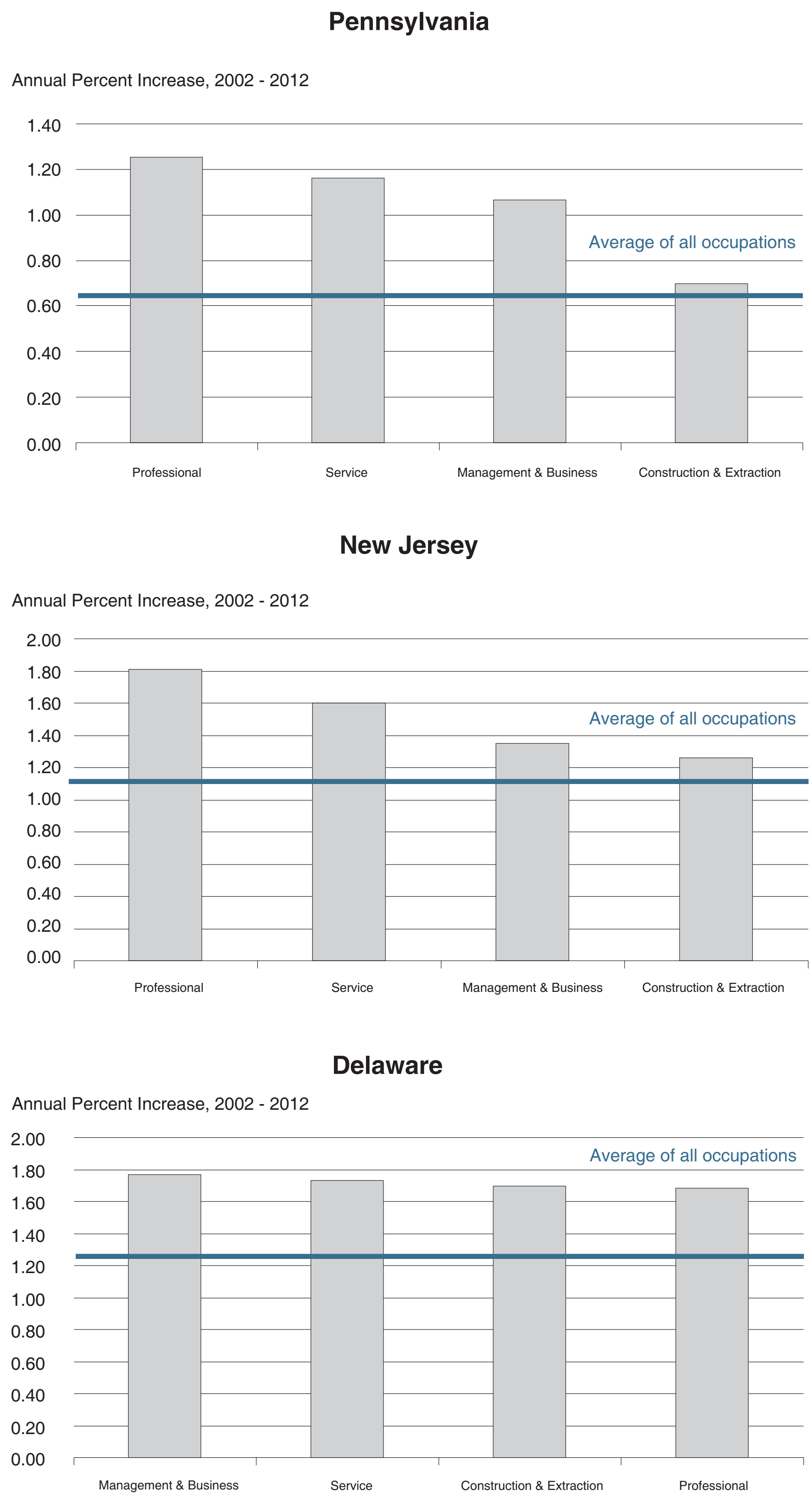


FIGURE 10

Occupations with Fastest Projected Growth



ISSUES RAISED BY AN OLDER, SLOWER-GROWING LABOR FORCE

An older, slower-growing labor force will raise issues for employers in the years ahead. The major issues are determining job tasks and responsibilities for older workers (job content), administering compensation and benefits for this group, ensuring the continuity of expertise within firms when older workers retire, and improving labor productivity as the pool of available workers expands less rapidly. Business and nonprofit employers are beginning to recognize these issues and take steps to deal with them.

With slower growth in the labor force, employers will need to consider labor-saving changes in production methods and more on-the-job training in order to get the most production from their employees. In addition to training new employees, training programs will also have to focus on retraining older workers as technology and job tasks change. This retraining is already taking place for nurses and engineers, professions in which the average age of workers has been rising more quickly than others.[14] Companies in industries that face large worker replacement needs, such as health care, aerospace, education, and utilities, are stepping up training programs.[15]

Another issue is retaining expert knowledge within firms as their most experienced workers leave. To deal with this issue, firms have begun to set up mechanisms by which older workers share their knowledge and skills with their younger co-workers.[16] Another way many firms are tapping older workers' expertise is by

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[14] See the 2004 publication from AARP.

[15] See the article by Alison Maitland.

[16] See the article by Dorothy Leonard and Walter Swap, and the one by Anne Fisher.

rehiring retirees, often on a part-time or contract basis.[17] Firms that rely heavily on intellectual capital are also stepping up programs to assess their critical knowledge, record interviews with their expert staff, document all essential information, and—in some cases—redesign production processes to eliminate the amount of expert knowledge workers need to have.[18]

An older work force is likely to desire a different mix of employee benefits and working arrangements than what has been typical.[19] For example, older workers are more likely to require family-friendly employment arrangements that will allow them to care for aging spouses and elderly parents, for whom nonresidential institutional care is not as widely available as daycare is for workers' children. According to some analysts of labor issues, older workers might also be more interested in telecommuting, to spare themselves the inconvenience of commuting. Changes in job content to reduce the physical demands of a job are one way some companies are attempting to preserve workers' ability to remain productive as they age. Another age-related concern is job safety because older workers tend to take longer to recover from accidents than younger workers.

Retirement issues are paramount for older workers, of course. They might be more interested in compensation packages that permit a shift of salaries into pensions, to make up for shortfalls in retirement financing, and to payments for health-care expenses, which tend to increase with age.

> Older workers are more likely to require family-friendly employment arrangements that will allow them to care for aging spouses and elderly parents.

They also might be more interested in phased retirement arrangements (also referred to as partial retirement) in which they can reduce their hours of work and earn part of their salary and receive part of their pension. Currently, phased retirement plans are mainly available only to workers who have reached normal retirement age and not to older workers generally. To make phased retirement more widely available to older workers, both private retirement arrangements and tax rules regarding pensions and health-care coverage would require revisions.[20] But many firms, including some of the nation's largest, have already begun to implement some of the working arrangements and employment agreements that are important to older workers.[21]

SUMMARY

The aging of the baby boom generation will prompt changes in both the supply of and the demand for workers among different industries and occupations, leading to potential shortages of workers in health care and education. As the baby boom generation grows older, the average age of the labor force will increase, its growth will slow, and its composition will become more diverse. These challenges are likely to loom especially large in the region. All the issues associated with an older, slower growing population and labor force are likely to be more acute in the region. This is because, compared with the nation, the region's population is older, its labor force is projected to grow more slowly, and the occupational and employment mix in the region is more heavily concentrated in those jobs for which demand is projected to grow and the supply of workers is likely to be less ample, especially education and health care.

But the region is already a center of education and health-care industries and occupations, in which demand is projected to be strong. So this favorable job mix could enable the region to attract more workers than currently anticipated.

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[17] See online article 996 from the Wharton School.

[18] See the book by David DeLong.

[19] See the AARP's 2004 publication; the article by Lynn Karoly and Constantijin Panis; and online article 1123 from the Wharton School.

[20] See the article by Rudolph Penner, Pamela Perun, and Eugene Steurele.

[21] See the 2004 publication from AARP and the article by Milt Freudenheim.

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Immigration in the U.S.:
Economic Effects on the Nation and Its Cities

Summary of a conference held at the Federal Reserve Bank of Philadelphia, April 28-29, 2005

BY JOANNA ENDER

What effect is the influx of people from other countries and cultures having on the U.S. economy and social structure? What effect do immigrants have on national and local labor markets, local housing markets, and neighborhoods? On April 28 and 29, 2005, the Research Department of the Philadelphia Fed sponsored a conference to examine these and other issues related to immigration. About 90 participants gathered to discuss the research of 11 scholars recognized for their expertise in different aspects of the immigration issue.

In the past decade the United States has absorbed a million or more immigrants a year. This represents the largest number of immigrants per year in the nation's history, although as a percent of the U.S. population this rate of immigration is not as high as the rate in the early 20th century. What effect is this influx of people from other countries and cultures having on the U.S. economy and social structure? The debate rages in the media, in legislatures, in classrooms, and around many kitchen tables in the U.S., especially in those areas most affected by this new wave of immigration. What effect do immigrants have on national and local labor markets, local housing markets, and neighborhoods?[1] The Research Department's conference examined these and other issues related to immigration.

Anthony M. Santomero, president of the Philadelphia Fed, opened the conference by welcoming the attendees and laying out some of the issues. President Santomero noted the timeliness of the discussion, as the nation debates how and to what extent it will tighten its borders. The issue is not a trivial one, since one-third of U.S. population growth is attributable to immigration. Immigration issues are even more important in some key cities where the immigrant population has traditionally tended to concentrate: New York, Los Angeles, Chicago, Miami, Washington, D.C., Dallas, and Houston.

More recently, other cities, such as Phoenix and Atlanta, have also become popular destinations for immigrants. Santomero pointed out that Philadelphia is notably missing from this list. It has largely been bypassed during this immigration boom, with foreign-born residents making up only 8 percent of its population. By comparison, Washington D.C., a comparably sized city, has an immigrant population of 20 percent.

Santomero previewed two of the major themes of the conference: the effects of recent immigration on American labor markets and housing markets. Immigration's impact on local labor markets appears to be surprisingly small even among low-skill workers. Several papers on the conference program addressed this puzzle and offered explanations for the minor effects on the wages of low-skill workers. Of course, many of our recent immigrants are not low-skill; they often come with advanced degrees. Among these new residents are some of the brightest individuals from areas like China, India, and Eastern Europe.

Santomero noted that in the housing market, immigration is driving up demand in those cities with high concentrations of foreign-born residents. The new entrants into this country, however, are less like the native-born

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[1] Two articles on these issues have been published recently in the *Business Review*. Albert Saiz, "The Impact of Immigration on American Cities: An Introduction to the Issues," *Business Review*, Fourth Quarter 2003; and Ethan Lewis, "How Do Local Labor Markets in the U.S. Adjust to Immigration?" *Business Review*, First Quarter 2005.

population than earlier waves of immigrants in terms of their nationality and culture. While these dissimilarities are producing a desirable diversity, they are also leading to concerns about greater segregation.

President Santomero concluded by reminding the audience that there are some parallels between the recent immigration boom and the large wave of immigration at the turn of the 20th century. At that time there was a negative reaction to many of the immigrants from southern Europe, but they assimilated well into our economy and our society. As the nation reexamines its immigration policy, we would do well to look back at our experience in the last century, which also began with a major influx of immigrants to our shores.

KEYNOTE: "IS THE NEW IMMIGRATION REALLY SO BAD?"

The keynote speaker for the conference was **David Card**, professor of economics at the University of California-Berkeley and 1995 winner of the John Bates Clark Medal.[2] Professor Card addressed two important questions for a labor economist: (1) Do immigrants hurt the labor market opportunities of native workers? (2) How rapidly do immigrant earnings catch up?

To answer his first question, Card relied on the fact that the recent wave of immigrants includes a disproportionate number of high-school dropouts and about the same proportion of workers with a bachelor's degree as the native-born population. Thus, the relative supply of workers in the middle has declined, that is, those with a high-school diploma but no bachelor's degree. This pattern is accentuated in labor markets with a high proportion of immigrants. Does this difference in the supply of workers with different skill levels lower the wages of the native born who have dropped out of high school relative to the wages of high-school graduates? Card concludes from his analysis of high-immigration cities that immigration does not lower the relative wages of low-skill workers. He does, however, find a slight decline in the employment of high-school dropouts relative to high-school graduates. On the whole, he finds that the inflow of low-skilled immigrants has had little effect on the labor market opportunities of native workers. In seeking an explanation for these results, Card argued that in markets with large immigrant populations the earnings and employment opportunities of low-skill workers are not primarily sustained by an influx of industries that typically use low-skill labor, although this may happen in some cases. Rather, opportunities for the low-skilled are sustained by the wider use of low-skill labor across all industries when this type of labor becomes relatively more plentiful.

David Card

To answer his second question about how long it takes for the earnings of immigrants to catch up with those of the native born, Card looks not at the immigrants themselves but at their children. Admittedly, those who come to the U.S. from other countries earn less than natives. However, education accounts for about 11 percent of the gap in earnings, and the rest of the gap is less than 10 percent for both men and women. It is difficult to determine to what extent immigrants "catch up" with natives or close the gap in earnings. Card estimates that 40 percent of immigrants who arrive with less than a high-school

> The recent wave of immigrants includes a disproportionate number of high-school dropouts and about the same proportion of workers with a bachelor's degree as the native-born population.

[2] This medal is awarded every two years by the American Economic Association to an economist under the age of 40 who has made a significant contribution to economic thought.

education will never fully catch up with their native-born counterparts. The story is much different for the U.S. born children of immigrants. They typically complete more years of education than the children of natives with otherwise similar backgrounds. Moreover, adjusting for their education level and the part of the country in which they live, the hourly wages of the children of immigrants tend to be 1 to 2 percent higher than the wages of other workers born in the U.S. In short, by the second generation, immigrants have "caught up" in terms of earnings.

On the basis of these results, Card concluded that the new immigration is not so bad. It does not hurt natives in the job market, and the children of immigrants are assimilated well into the labor market in terms of education and earnings.

IMMIGRATION'S EFFECT ON LABOR MARKETS

In other sessions during the conference, presenters expanded on the labor market issues discussed by David Card. **Ethan Lewis** of the Philadelphia Fed pursued the issue of how the increased supply of low-skill immigrant labor was being absorbed by local labor markets.[3] It is commonly assumed that the introduction of new technologies is driving the demand for skilled labor. Lewis suggested that it may be the relative supply of skilled labor that drives the adoption of new technologies, and the abundance of less skilled labor may slow the adoption of new technologies. To test his hypothesis, Lewis used data from two surveys taken in 1988 and 1993 that gathered information on the use of 17 different kinds of technologies in manufacturing plants. He found that when he took account of the industry in which the plant operated and product quality, the number of technologies adopted in these plants was lower in metropolitan areas with a relatively large supply of low-skill workers, that is, high-school dropouts. The number of high-tech machines per employee was also lower in these markets.

When immigration increases the supply of low-skill workers, firms may delay adopting new technologies and instead employ the additional supply of less-skilled workers.

Lewis confirmed that these findings were not simply the result of low-skill workers choosing to locate in areas that have not yet adopted new technologies. He made use of different historic immigration patterns to get another measure of low-skill workers in each metro area. He apportioned all recent immigrants who were high-school dropouts to metro areas based on the historical pattern of where immigrants from different countries had settled in the past. His results are even stronger when he uses this measure of the relative supply of unskilled labor.

Lewis tested his hypothesis further by looking only at plants that were surveyed both in 1988 and in 1993. Those plants that were in metro areas where the relative supply of skilled workers was increasing more slowly were also slower than plants in other areas to adopt new technologies.

Lewis's results can explain why immigration has little effect on the wages of native-born workers. When immigration increases the supply of low-skill workers, firms may delay adopting new technologies and instead employ the additional supply of less-skilled workers. His findings suggest that the adoption of new technology may be dictated by the relative supply of skilled and unskilled workers in the local labor market.

Giovanni Peri from the University of California-Davis also presented a paper on immigration's effect on the wages of workers in different skill groups.[4] His work differs from earlier research because his model and his empirical estimates imply that foreign-born workers are not perfect substitutes for native-born workers. According to Peri and his co-author, Gianmarco Ottaviano, foreign-born and native workers complement each other. Not only do they differ in their mix of skills but also immigrants and natives within the same skill group often specialize in different professions or offer different services, for example, specialty foods or different types of entertainment. These complementarities increase productivity and, therefore, average wages. Peri estimates that a 10 percent increase in foreign-born workers with the same distribution of skills as the immigrants in the 1990s would increase average wages 3 percent.

However, not everyone would benefit. The wages of low-skill workers would actually fall a modest 1 percent because of the increase in the supply

[3] "The Impact of Immigration on New Technology Adoption in U.S. Manufacturing." For more information, see also Working Paper 05-8, "Immigration, Skill Mix, and the Choice of Technique," at www.philadelphiafed.org/files/wps/2005/wp05-8.pdf.

[4] "Gains from 'Diversity': Theory and Evidence from Immigration in U.S. Cities," with Gianmarco I. P. Ottaviano, University of Bologna.

of low-skill workers, but the wages of college graduates would increase 4 to 5 percent.

Peri also looked at the effect on rents and house prices from this increase in foreign-born workers. He estimates that the increase in population and income resulting from a 10 percent increase in foreign-born workers would raise both rents and house prices 15 to 18 percent. On average, then, immigration raises wages in the U.S. and strengthens the U.S. housing market.

IMMIGRATION'S EFFECT ON HOUSE PRICES AND NEIGHBORHOODS

Two other conference papers looked at immigration's effect on housing markets and neighborhood segregation. **Albert Saiz** from the Wharton School of the University of Pennsylvania presented his research on the dynamics of housing prices in neighborhoods where immigrants are concentrated.[5] In earlier research, he had shown that immigration pushes up rents and housing prices in metropolitan areas where immigrants settle. In this paper, Saiz and his co-author, Susan Wachter, used census data from 1970 to 2000 to look at how housing prices in neighborhoods with concentrations of immigrants changed relative to housing prices in other neighborhoods in the same metro area. Saiz and Wachter found that housing prices grew more slowly in neighborhoods with high concentrations of immigrants.

Saiz and Wachter offer three possible explanations for this finding. First, the quality of the houses in immigrant neighborhoods may have deteriorated relative to the quality of houses in other neighborhoods. Second, immigrants may gravitate to neighborhoods where house prices are already declining. Third, the native-born may find immigrant neighborhoods less attractive and prefer to live elsewhere. These explanations are not mutually exclusive, and Saiz and Wachter's research suggests that each offers a partial explanation.

To test the first explanation, the authors control for changes in the quality of the houses in estimating differences in appreciation rates by neighborhood. They still find that houses in neighborhoods with an increase in immigrants appreciate more slowly than houses in other neighborhoods. The change in housing quality can explain only about a third of the difference in appreciation rates.

The tendency of immigrants to move to neighborhoods with slower growing house prices explains some of the relationship between lower appreciation and the concentration of immigrants.

The second explanation proposed in the paper hinges on the direction of causality: Do immigrants tend to move into neighborhoods where prices are already rising less rapidly, or do prices rise less rapidly because immigrants are moving there? To determine the causality, Saiz and Wachter use a prediction of immigrant concentration based on historical patterns of concentration rather than the actual changes in immigrant concentration. The tendency of immigrants to move to neighborhoods with slower growing house prices explains some of the relationship between lower appreciation and the concentration of immigrants. But based on the authors' estimates, it explains less than a third of the difference between the changes in house prices in immigrant neighborhoods and in other neighborhoods.

This leaves room for the third explanation, namely, that the native-born find immigrant neighborhoods less attractive than other neighborhoods and, therefore, will live there only if it is less expensive. Saiz and Wachter went beyond this basic conclusion and presented some preliminary evidence on what makes immigrant neighborhoods less attractive to natives. Natives seem to find these neighborhoods less attractive not because immigrants are foreign-born but because immigrants who cluster in enclaves tend to have a lower socioeconomic status in terms of income and education.

Jacob Vigdor from Duke University continued the discussion of immigration's effect on neighborhood composition. He sought to explain the rise in immigrant segregation in the latter decades of the 20th century.[6] He began by noting that the segregation of immigrants declined in the first half of the 20th century but has climbed rapidly at least since 1970. Vigdor and his co-authors, David Cutler and Edward Glaeser, offer several possible explanations for this pattern. One explanation is that periods of high immigration (e.g., the first part of the 20th century)

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[5] "Immigration and the Neighborhood," with Susan Wachter, Wharton School, University of Pennsylvania.

[6] "Is the Melting Pot Still Hot? Explaining the Resurgence of Immigrant Segregation," with David M. Cutler, Harvard University, and Edward L. Glaeser, Harvard University.

followed by periods of low immigration (e.g., the middle of the century) make it appear that immigrant segregation is declining. The children born in this country to the initial wave of immigrants are natives and not foreign-born. If these children live with their parents, immigrants will appear less segregated from the native-born in the official statistics. With a second wave of new immigrants (e.g., at the end of the 20th century), immigrants would appear to have become more segregated because they do not initially have children born in this country. Because the data are not available, Vigdor is not able to recalculate his segregation indexes to account for young children born in the U.S. and living with foreign-born parents. For 1990 he uses the data on individual households from the census to adjust for children born in the U.S. to immigrant parents, and his segregation indexes change very little. He concludes that the historical pattern in the 20th century of falling and then rising segregation is not explained by some bias in the segregation measure.

Vigdor and his co-authors suggest two theories about the preferences of immigrants and the native-born that could lead to greater segregation of immigrants. The first theory is that immigrants want to live near other immigrants who share their language, tastes, and culture. The second is that natives want to avoid concentrations of immigrants. If immigrants live in segregated neighborhoods because they want to live near other similar immigrants, they should pay a premium for living in those neighborhoods. They should also be more segregated in metropolitan areas where they are a smaller fraction of the population in order to enjoy more contact with others who share their culture. Vigdor found neither of these conditions to be true: Any housing premium in immigrant neighborhoods that existed in 1970 had dissipated by the end of the century, and immigrant groups did not segregate more in metro areas where they were a smaller proportion of the population. If the second theory holds and natives want to live in nonimmigrant neighborhoods, natives should pay a premium to live in those neighborhoods, and immigrants should pay less to live in segregated neighborhoods. There is some evidence to support this hypothesis, but Vigdor found that only one immigrant group (those from the Caribbean) paid less for housing in a segregated neighborhood.

Poor immigrants are clustering together to take advantage of public transportation, and they are occupying the neighborhoods served by public transportation that natives have left behind.

Vigdor's preferred explanation for the increased neighborhood segregation of immigrants is the changing form of U.S. metropolitan areas. Metro areas have become less dense as the automobile has become the major means of transportation. Public transportation has become relatively less important. Vigdor finds that immigrants are more segregated in metro areas with more public transportation. In effect, poor immigrants are clustering together to take advantage of public transportation, and they are occupying the neighborhoods served by public transportation that natives have left behind.

THE ASSIMILATION OF IMMIGRANTS AND ETHNIC DIFFERENCES

In his presentation, **Alexis León** of the University of Pittsburgh explored how ethnic segregation and interaction with one's ethnic peer group affected the educational attainment of the children of the foreign born.[7] León used data from the 1910 and 1920 censuses and defined educational attainment as the probability of attending school for school-age children of immigrants. It has long been established that parents play an important role in the educational attainment of their children, and León finds that for the children of immigrants, the father's literacy or ability to read and write English is one of the most important factors in determining whether his child attends school (he did not study the effects of the mother's literacy). In addition to the father's abilities in English, however, León found that the average literacy of the child's ethnic peer group is important in determining whether a child attends school. Thus, in 1910, second-generation English, Dutch, and Irish were more likely to attend school than many other ethnic groups. Moreover, the ethnic effects on schooling are more pronounced in areas in which ethnic groups are more highly concentrated and in areas where a greater proportion of marriages are within the same ethnic group.

León noted that his research has some implications for successive waves of immigrants. First, existing immi-

[7] "Does 'Ethnic Capital' Matter? Identifying Peer Effects in the Intergenerational Transmission of Ethnic Differentials"

grants have reason to be concerned about the arrival of lower-skill, less educated immigrants from their ethnic background, who will lower the average literacy of the group and reduce the peer pressure to attend school. Second, government programs that help ethnic groups improve their literacy benefit not only the current group of immigrants but also future generations.

Much of the research on the assimilation of immigrants has concentrated on education, labor markets, and housing markets. **Una Okonkwo Osili** from Indiana University-Purdue University at Indianapolis presented research on the extent of immigrant participation in financial markets.[8] Participation in these markets has been important for wealth accumulation in the U.S. Osili and her co-author, Anna Paulson, used data from the Census Bureau's Survey of Income and Program Participation to examine the differences between immigrants and the native-born in their ownership of savings and interest-bearing checking accounts. There is a difference of 14 to 15 percentage points between immigrants and the native-born in the ownership of these accounts. Immigrants are both less likely to open an account and more likely to close an account. Half or more of the gap in the ownership of these accounts can be attributed to differences between the two groups in age, income, education, and race.

But even after accounting for these factors, the gap is more than seven percentage points for savings accounts and more than six percentage points for interest-bearing checking accounts. This still leaves an important role for individual characteristics such as legal status, language ability, or the likelihood of returning to one's own country. Recent immigrants are even less likely to have savings or interest-bearing checking accounts, suggesting that language ability and the lack of familiarity with U.S. financial institutions are factors. Osili also found that in metro areas with higher concentrations of immigrants from a given country, immigrants from that country were less likely to participate in the financial system with savings or interest-bearing checking accounts. This suggests that the ability to interact only with similar immigrants in other aspects of their lives leads to less assimilation by immigrants in financial markets as well.

No discussion of immigration would be complete without noting the link that is often made between immigration and certain social problems in the U.S.

IMMIGRATION AND SOCIAL ISSUES: DISCRIMINATION AND CRIME

No discussion of immigration would be complete without noting the link that is often made between immigration and certain social problems in the U.S. One session of the Philadelphia Fed conference dealt with two of these issues: discrimination and crime.

Neeraj Kaushal of Columbia University examined the effects of the terrorist attacks of September 11, 2001, on the treatment of Muslims and Arabs in the U.S.[9] Official crime reports and surveys have documented the increase in hate crimes and discrimination against Arabs and Muslims following the attacks. Kaushal focused her research on the experience of these groups in the labor market and on their mobility within the U.S. She and her co-authors, Robert Kaestner and Cordelia Reimers, compared the experiences of first- and second-generation immigrants from major Muslim countries with the experiences of immigrants from other countries and with the experiences of native-born Americans.[10] Their primary data source was the Current Population Surveys from 1999-2002.

Kaushal reported that men from major Muslim countries did not suffer from any loss of employment or hours worked relative to the comparison groups, but they did suffer a reduction in earnings, which she estimated to be 8 percent. On the other hand, women from the major Muslim countries did not suffer any statistically significant reduction in employment, hours worked, or wages relative to the comparison groups. To explain why the earnings of Muslim and Arab men fell relative to that of the other groups, Kaushal looked at their mobility in the U.S. relative to other immigrants post-September 11. Their mobility across states declined relative to that of other

[8] "Prospects for Immigrant-Native Wealth Assimilation: Evidence from Financial Market Participation," with Anna Paulson, Federal Reserve Bank of Chicago.

[9] "Backlash: Effects of 9/11 on Muslims and Arabs Living in the U.S.," with Robert Kaestner, University of Illinois at Chicago, and Cordelia Reimers, City University of New York.

[10] They excluded from the native-born the second-generation immigrants from the major Muslim countries.

immigrants, and Kaushal suggested this may have limited their ability to increase their earnings. Thus, the backlash against Arab and Muslim immigrants after the attacks of September 11 had adverse economic effects for the men in the labor market.

In the session on immigration and social issues, **Anne Morrison Piehl** of Rutgers University presented research that extended earlier work with her co-author on crime and immigration.[11] That earlier work established that in the 1980s, cities with higher proportions of immigrants had no higher crime rates than similar cities with fewer immigrants. Also, based on incarceration rates, immigrants' involvement in crime was less than that of the native-born, especially those with the same characteristics as the immigrants.

There were, however, some major changes in the 1990s that could have altered this relationship between crime and immigration. Crime rates declined, and in 1996, the Anti-Terrorism and Effective Death Penalty Act and the Welfare Reform Act changed the policy and practice of punishment and deportation of immigrants involved in criminal activity. Did these changes affect the relative involvement in crime by immigrants and natives? Piehl and her co-author, Kristin Butcher, draw on the public use microsamples from the 1980, 1990, and 2000 censuses to address the question. They found that the gap in incarceration rates between immigrants and the native-born widened in the 1990s. The foreign-born had institutionalization rates only one-fifth as high as natives in 2000. Piehl found little evidence that increased deportations are responsible for the widening gap. It may be, however, that stricter sanctions for noncitizens involved in crime may have acted as a deterrent. But if that were the case, one might expect that immigrants were becoming citizens at a faster rate, which has not happened. Piehl concludes that the U.S. is simply attracting immigrants who are less likely than the native-born to commit crimes.

Perhaps the most contentious political issue surrounding immigration is how to control the flow of illegal immigrants across the border between the U.S. and Mexico.

THE FLOW OF IMMIGRANTS

Perhaps the most contentious political issue surrounding immigration is how to control the flow of illegal immigrants across the border between the U.S. and Mexico. Of the estimated 600,000 illegal immigrants that enter the United States each year, most enter along this border. **Christina Gathmann** from Stanford University used the experience along the border to examine the effect of stricter border enforcement on the flow of illegal immigrants.[12] Her primary source of data on attempted border crossings is the surveys of a sample of households taken every year since 1982 in various Mexican communities as part of the Mexican Migration Project. She estimates the deterrent effect of increased enforcement since 1986, a period when the border patrol budget increased six-fold and the hours of patrol along the border tripled. She takes care to ensure that her measures of increased enforcement do not simply reflect the border patrol's response to an increase in the number of attempts to cross.

Potential illegal migrants can react to stricter enforcement in a number of ways. They can decide not to attempt a crossing, in which case the increased enforcement acts as a deterrent. On the southwestern border they can also spend more money and/or time trying to cross by hiring a smuggler, known as a coyote, or crossing at a more remote location. Gathmann estimates that the increased enforcement efforts since 1986 have reduced the propensity to migrate illegally only 10 percent. It has increased the price that smugglers charge about 30 percent but has increased demand for their use very little. The greatest effect of stricter enforcement has been that illegal migrants circumvent the enforcement by crossing the border at more remote and more treacherous locations. Gathmann suggests that a more efficient way to control illegal migrants who come to the U.S. temporarily for a job is to charge a fee for a temporary permit to cross the border and work in the U.S.

We often forget that migration is not a one-way street. A percentage of people who migrate to other countries end up returning to their home countries. In his conference paper, **Dean Yang** from the University of Michigan asked why immigrants in rich countries would ever return to poorer

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[11] "Crime and Immigration: Further Evidence on the Connection," with Kristin F. Butcher, Federal Reserve Bank of Chicago. At the time of the conference, Professor Piehl was on the faculty of the Kennedy School of Government at Harvard University.

[12] "The Effects of Enforcement on Illegal Markets: Evidence from Migrant Smuggling along the Southwestern Border"

countries.[13] He offers two possible explanations: a life-cycle explanation and a target-earnings explanation.

In the life-cycle model, migrants leave their home countries temporarily to accumulate wealth to be used later in life in their home countries, where they prefer to live. Under this model, a migrant would return to his or her home country when the marginal benefit of returning exceeds the marginal benefit of staying longer and working in the foreign country.

In the target-earnings model, migrants are faced with borrowing constraints and some minimum investment level in their home country. They work overseas to accumulate enough wealth to make the investment they want. If the wages in the host country increase relative to prices at home, migrant workers who are motivated by life-cycle considerations are likely to extend their stay because the benefits of remaining abroad increase. Under the same circumstances, those motivated by target-earnings considerations are likely to shorten their foreign stay because they will reach their target sooner.

The Asian financial crisis in the summer of 1997 provided an opportunity to test which of these motivations is more important. Along with most other Asian currencies, the exchange rate for the Philippine peso relative to other currencies changed unexpectedly. The Philippines has an active program of temporary contract workers in other countries, and the Statistics Office regularly surveys those workers. Yang found that Philippine workers in countries whose currencies appreciated strongly relative to the Philippine peso extended their stay longer than Philippine workers in countries whose currencies had not appreciated as much. This finding supports the notion that most workers take temporary jobs in foreign countries for life-cycle reasons. There was evidence, however, that some workers also have a target-earnings motive. The increase in the value of the foreign currency had the least effect on the stay of Philippine workers at intermediate wage levels. This may indicate that they were working abroad to accumulate money for investment.

CONCLUSION

These summaries of the papers presented at the Philadelphia Fed's immigration conference report only the highlights of each presenter's research. They do not report all the results and do not capture all the nuances of the papers. Nor can the summaries convey the careful scholarship that was involved in reaching these conclusions. Our hope is that these summaries encourage the reader to study the original papers and related research by those who took part in the conference.

For more information about the conference and these papers, visit the conference's website at www.philadelphiafed.org/econ/conf/immigration/index.html.

[13] "Why Do Migrants Return to Poor Countries? Evidence from Philippine Migrants' Responses to Exchange Rate Shocks"

RESEARCH RAP

Summaries of research produced by the economists at the Philadelphia Fed

You can find more Research Rap summaries on our website at: www.philadelphiafed.org/econ/resrap/index.html. Or view our Working Papers at: www.philadelphiafed.org/econ/wps/index.html.

TECHNOLOGY MEETS LABOR SUPPLY

Economic research suggests that the introduction of new technologies in recent decades may have reduced the need for less-skilled labor. In manufacturing, new automation technologies – robotics, for example – have made it possible to produce with less manual labor. At the same time, however, the U.S. has been absorbing millions of less-skilled immigrant workers into some of its cities, apparently with little adverse impact on the employment rates or wages of other less-skilled workers. How have these workers been integrated into our economy in light of changing technology?

One explanation is that businesses adopt automation only to the extent that unskilled labor is not available to do the same job. In this paper, author Ethan Lewis tests this theory by asking whether the use of automation technologies in manufacturing plants is related to the fraction of workers who are high school dropouts in a plant's metropolitan area.

Lewis finds that in both 1988 and 1993, the higher the relative number of dropouts in a metropolitan area, the less automated the plants were. More pointedly, between 1988 and 1993, the use of automation technology grew more slowly, both overall and relative to plants' forecasts, where the relative number of dropouts in the local economy grew more quickly. In rare cases, plants "de-adopted" automation technology when less-skilled labor became unexpectedly abundant.

These results are consistent with models that imply less-skilled immigration does not lower the wages of less-skilled native-born workers but is instead accommodated by creating more jobs for less-skilled workers. Some of these jobs may be the result of plants shifting toward producing more labor-intensive goods, but most appear to be created when plants shift the technique by which they produce the same goods.

Working Paper 05-8, "Immigration, Skill Mix, and the Choice of Technique," Ethan Lewis, Federal Reserve Bank of Philadelphia

RENT RISK AND HOMEOWNERSHIP

Owning a home has often been looked at more or less in isolation as an investment, an "asset risk." The financial risk of owning a home may be more accurately gauged by comparing it with the risk of the other option—renting. Owning a home may provide a "hedge" against fluctuations in rent, where the cost may rise every year, but homeownership has its own price risk when an owner sells or dies.

This paper looks specifically at how home-buying is related to the financial risk of renting and under which circumstances it works most effectively as a hedge. Using a simple housing choice model, the authors show how the net risk depends on a *household's expected length of stay.* For those with expectations of longer stays, the rent risk outweighs the asset price risk of owning. Greater rent volatility and more uniformity of house prices from place to place geographically further increase the value of owning.

Testing the idea that rental volatility and longer expected lengths of stay, singly or in combination, increase a hedging demand for owning, the authors find that, depending on the elasticity of the supply of ownership units, this demand may result in a higher homeownership rate, higher housing prices, or both. Household-level data show that with rental volatility the probability of homeownership increases faster for households with longer expected lengths of stay.

Working Paper 05-10, "Owner-Occupied Housing as a Hedge Against Rent Risk," Todd Sinai, The Wharton School and NBER, and Nicholas S. Souleles, The Wharton School, NBER, and Visiting Scholar, Federal Reserve Bank of Philadelphia.

ADVERTISING AND OUTPUT

Advertising has generally been treated in national accounts as an intermediate input with no direct, quantifiable output. Leonard Nakamura argues that there are two ways in which advertising produces output: as an investment in the longer-term sales of products and as financing for broadcast entertainment and news.

In terms of investment, spending on advertising that seeks more than short-term sales might be counted as producing output. For example, advertising that introduces a new model of car may well expect payoffs that go beyond the model's first year. Previous estimates that perhaps one-third of the money spent on advertising is essentially capital investment, Nakamura concludes, is a reasonable benchmark but should be updated with current data.

As for broadcast entertainment and news, they have generally been produced as byproducts of advertising. Although nominally free, they are products that consumers are willing to pay for, as evidenced by the willingness of many to pay for basic cable service. Therefore, they might arguably be counted along with other entertainment. If these free products are added to other entertainment, the output of entertainment products is of course raised, but because these additional products are free, the average overall cost of entertainment is reduced.

Like the investment portion of advertising spending, this entertainment and news contribution to GDP would consist of roughly one-third of expenditures on advertising. Thus, two-thirds of advertising costs would produce measurable outputs.

Working Paper 05-11, "Advertising, Intangible Assets, and Unpriced Entertainment," Leonard I. Nakamura, Federal Reserve Bank of Philadelphia

AN INTERMEDIARY AS A MARKETPLACE REGULATOR

This paper examines a marketplace in which participants can enter into nonexclusive contracts. Since they can enter into a number of contracts secretly, they may decide to enter as many contracts as they can and later default on all of them.

One solution to the problem above is to require cash collateral so that participants have a stake in each contract, but this measure has its own negative impact on the general welfare of market participants. Another solution is to establish an intermediary who would make sure that no one enters into too many contracts. Such an intermediary essentially acts as an exchange or a regulator that monitors participants' transactions.

Although participants are not required to report contracts to the intermediary, the author argues that they will tend to do so voluntarily because not reporting will induce the participant with whom the contract was entered to strategically default. Also, in order to induce agents to report all their contracts voluntarily, the intermediary must permit participants enough latitude so that they can cheat on parties with whom they have entered into a contract. This implies that in some cases the intermediary must allow participants to enter into more contracts than they really need, and not make reported trades public.

Working Paper 05-12, "A Theory of an Intermediary with Nonexclusive Contracting," Yaron Leitner, Federal Reserve Bank of Philadelphia

DOES MONITORING TRANSACTION ACCOUNTS GIVE LENDERS USEFUL INFORMATION?

Does observing transactions help financial intermediaries monitor borrowers? Economists Loretta Mester, Leonard Nakamura, and Micheline Renault provide evidence that the answer is yes, especially for commercial banks. In "Transactions Accounts and Loan Monitoring," these authors show that tracking a commercial borrower's cash flows into and out of checking accounts, for example, can help a bank monitor the changing value of collateral—defined in this paper as accounts receivable and inventory—that the borrower has posted for an operating loan.

Using a unique data set from an anonymous Canadian bank, Mester, Nakamura, and Renault test the hypothesis that the lender uses information from borrowers' transactions accounts to determine that loans are being used for normal operating purposes rather than for other activities. They observe that such accounts provide useful information to a lender and that the lender responds to the information received. The authors state three main findings: monthly changes in accounts receivable are quite perceivable in transactions accounts movements; the number of previous borrowings that exceeded the value of the collateral predicts credit downgrades and loan write-downs; and as loans deteriorate, loan reviews become lengthier and more frequent.

Together, these findings show that financial intermediaries can and do use transactions accounts to monitor collateral, such as accounts receivable and inventories, for operating loans.

Working Paper 05-14, "Transactions Accounts and Loan Monitoring," Loretta Mester and Leonard Nakamura, Federal Reserve Bank of Philadelphia, and Micheline Renault, Université du Québec à Montréal

CROSS-BORDER EFFECTS OF MONETARY STIMULUS

How do the monetary policy actions of one country radiate into the economies of other countries when economies are more and more interdependent, and with what consequences?

According to recent models looking at open economies, a monetary expansion has two spillover effects on another country's economy. One effect is a countering of monopolistic distortions. This raises output and employment to more efficient levels for both the source country and the trade partner. The other effect alters the terms of trade in favor of one or the other country, depending on whether goods are priced in the currency of the buyer country or the seller country. Hence, the counter-monopolistic efficiency effect improves the welfare of both countries, while the terms-of-trade effect tilts benefits toward just one country.

Most recent studies assume that production occurs in one stage. In this setting, the unequal benefits of the terms-of-trade effect tend to dominate the greater-efficiency effect. In this paper, which looks at production involving multiple border crossings in a vertical chain of production and trade, the efficiency-improvement effect is magnified and the terms-of-trade effect is lessened.

Therefore, it appears that in interdependent economies with cross-border production processes—for example, the United States and Canada—monetary expansion can be mutually beneficial to both countries, regardless of the source of the stimulus.

Working Paper 05-15, "Vertical Production and Trade Interdependence and Welfare," Kevin X. D. Huang, Federal Reserve Bank of Philadelphia, and Zheng Liu, Emory University

NEW EVIDENCE ON THE STRUCTURE OF PRICING IN THE CREDIT CARD MARKET

In earlier research, economists Paul Calem and Loretta Mester, using data from 1989, argued that credit card rates remain persistently high because consumers, especially those with high balances, face potential costs when switching between card issuers. Adverse selection problems may compound these switching costs because those consumers who want to switch in order to accumulate more debt may have a stronger incentive to respond to a credit card solicitation from a lender.

But much has changed in the credit card industry since 1989. In particular, card issuers have taken advantage of advances in technology to prescreen applicants for credit cards. Furthermore, new technologies and innovations may improve issuers' ability to judge creditworthiness, lower evaluation costs, and allow issuers to target higher credit-quality borrowers, thus making the market more competitive. But the evidence as to whether the credit card market has truly become more competitive and interest rates less "sticky" is difficult to interpret.

In "Switching Costs and Adverse Selection in the Market for Credit Cards: New Evidence," authors Paul S. Calem, Michael B. Gordy, and Loretta J. Mester present new evidence on the effects of changes in the informational structure of the credit card market. Their findings suggest that despite the many changes seen over the past decade, switching costs and adverse selection remain relevant issues in the credit card market.

Working Paper 05-16, "Switching Costs and Adverse Selection in the Market for Credit Cards: New Evidence," *Paul S. Calem, LoanPerformance; Michael B. Gordy, Federal Reserve System Board of Governors; and Loretta J. Mester, Federal Reserve Bank of Philadelphia (This paper is forthcoming in the* Journal of Banking and Finance.*)*

MARKET RISK AND UNDERWRITING SECURITIES

Section 20 of the Glass-Steagall Act of 1933 prohibited U.S. commercial banks from affiliating with organizations engaged in the underwriting, sale, or distribution of stocks, bonds, debentures, notes, or other securities. This regulation sought to allay concerns about the possible increased risk and negative effects on the overall safety and soundness of the banking system that may arise when bank holding companies (BHCs) engage in both commercial banking and investment banking activities.

But over the years, such restrictions have been gradually relaxed, and in 1999, passage of the Gramm-Leach-Bliley Act (GLBA) abolished the general prohibition on underwriting domestic securities by U.S. banks.

Before the enactment of GLBA, some researchers argued that since securities activities are inherently riskier than traditional banking activities, expanding into securities underwriting increased BHCs' risk. Others made a case for the positive side: the potential for product diversification and increased earnings that securities underwriting could bring.

In "Banks in the Securities Business: Market-Based Risk Implications of Section 20 Subsidiaries," economist Victoria Geyfman evaluates the risk of banking organizations that actually engaged in securities activities. Using data from 1985 through 1999, she examines whether there was an economically significant difference in market, or systematic, risk between BHCs with securities powers and those without such powers. The period Geyfman chooses includes the years before 1987 leading up to when the Federal Reserve allowed commercial BHCs to establish separate Section 20 securities affiliates, to 1999, when GLBA resulted in a significant reduction in the number of separate securities-underwriting affiliates.

While regulators are concerned about total risk, market participants consider systematic risk a more relevant measure. This paper estimates total, systematic, and unsystematic risk for BHCs with and without Section 20 affiliates. Geyfman concludes that while systematic risk of all BHCs increased in the late 1980s and 1990s, BHCs that did not participate in Section 20 activities exhibited lower systematic risk than BHCs with Section 20 affiliates. However, the overall level of risk and the level of unsystematic risk of BHCs with Section 20 affiliates declined during the 1990s. These results are an important extension of the findings of previous studies that argued that expanded bank powers are likely to decrease total risk in the U.S. banking industry.

Working Paper 05-17, "Banks in the Securities Business: Market-Based Risk Implications of Section 20 Subsidiaries," Victoria Geyfman, Federal Reserve Bank of Philadelphia

BANKRUPTCY REFORM: A GOOD IDEA?

Today, debtors can declare bankruptcy by choosing to file under one of the chapters of the bankruptcy code. Chapter 7 is the most common and the most beneficial chapter for individual filers. However, the U.S. bankruptcy code has recently undergone significant changes that make it harder to file under Chapter 7.

In "A Quantitative Theory of Unsecured Consumer Credit with Risk of Default," economists Satyajit Chatterjee, Dean Corbae, Makoto Nakajima, and Jose-Victor Rios-Rull develop a model that accounts for the recent trends in household indebtedness and bankruptcy. In this model, households face adverse events (such as a job loss or a sudden medical expenditure) that can result in indebtedness that may cause some households to file for bankruptcy. In their model, some households file for bankruptcy because they have no option—they cannot repay their debt and maintain a positive level of consumption. But some households file for bankruptcy even though they have the resources to repay their debt—for these households, bankruptcy is not the only option, but it is the best one.

The authors use their model to study the long-term consequences of the new bankruptcy law, which makes it very difficult for above-median-income households (households that, presumably, have the resources to repay their debt) to file under Chapter 7. They find that the new law lowers credit costs for all households but some households are not able to declare bankruptcy when doing so would make them better off. Weighing benefits vs. costs, the authors conclude that, on average, the new law makes households better off.

Working Paper 05-18, "A Quantitative Theory of

Unsecured Consumer Credit with Risk of Default," Satyajit Chatterjee, Federal Reserve Bank of Philadelphia; Dean Corbae, University of Texas, Austin; Makoto Nakajima, University of Illinois; and Jose-Victor Rios-Rull, University of Pennsylvania

SOLVING THE NATIONAL BANK NOTE PUZZLE

The federal government began to charter national banks in the 1860s. These banks were licensed to issue national bank notes, which were free of default risk and backed by U.S. Treasury bonds deposited by issuing banks at the U.S. Treasury. The advent of these new banks, along with a 10 percent annual tax on state bank notes, soon meant that the new national bank notes had supplanted state banks' notes.

However, the total supply of national bank notes never reached its maximum permissible level—in spite of evidence that issuing bank notes was more profitable than bank lending. Scholars have long puzzled over why national banks did not take greater advantage of the authority to issue notes.

One typical explanation for the low issuance of national bank notes is the hidden transaction costs: either the cost of redeeming physical notes or the cost of maintaining cash balances to back the bank notes issued. Other researchers have suggested that the supposed profitability of issuing notes might be misleading. For one thing, some of the low issuance can be explained by regional variations in the supply of bank notes and regional variations in the profitability of bank lending. For example, before 1874, bank lending was highly profitable in the South and West, areas where note issuance was relatively low. However, this explanation is incomplete and does not jibe with the facts after 1874.

In "Resolving the Puzzle of the Underissuance of National Bank Notes," economists Charles Calomiris and Joseph Mason use microeconomic data to test the various theories of note underissuance. They resolve much of the puzzle by analyzing data on individual banks' incentives for and constraints on note issuing. In fact, they note that much of the puzzle about underissuance of national bank notes turns out to be largely a result of legal restrictions on bank note issue, which complicates making accurate inferences from the aggregated data.

Working Paper 05-19, "Resolving the Puzzle of the Underissuance of National Bank Notes," Charles Calomiris, Columbia University, and Joseph Mason, Drexel University and Visiting Scholar, Federal Reserve Bank of Philadelphia