

Economic Trends

February 2008

(Covering January 10, 2008, to February 14, 2008)

In This Issue

The Economy in Perspective

This old house...

Inflation and Prices

December Price Statistics

Money, Financial Markets, and Monetary Policy

Another Move, but with Less Surprise

What is the Yield Curve Telling Us?

International Markets

Chinese Inflation and the Renminbi

Economic Activity and Labor Markets

Real GDP Fourth-Quarter 2007 Advance Estimate

The Pass-through of Oil Prices to Gasoline Prices

The Employment Situation

Manufacturing Employment

Housing Markets

Regional Activity

The Ups and Downs in Regional Employment Statistics

The Erie Metropolitan Statistical Area

Banking and Financial Markets

Fourth District Community Banks

This old house...

1.25.08

by Mark S. Sniderman

There once were some bankers from Gaff
Whose products were layered with math.
With assets worth billions
Now stated in millions,
Those chaps were too clever by half!

With the U.S. mortgage finance industry in a serious state of disrepair, now is the time to draw up the blueprints, acquire some new tools, roll up our sleeves, and get to work building a sounder structure.

Houses have foundations and support elements, plumbing and electrical, heating and cooling systems, insulation, and, of course, décor. So too, the mortgage finance industry is made up of a set of components such as property appraisers, and loan brokers, originators, servicers; and holders. And just as houses cannot be built without the consent of local officials who determine zoning and building codes, the mortgage finance industry operates under the jurisdiction of various federal and state regulators.

Back in the day, mortgage holders were most likely the originating banks and thrift institutions (as they were fondly called), but the residents of that staid “buy and hold” bungalow have been displaced by occupants of glamorous “originate and sell” mansions. These occupants include independent brokers selling loans on behalf of mortgage banks, which themselves raise funds in capital markets instead of relying on insured deposits. And now the family of mortgage holders include not only the familiar secondary market entities Fannie Mae, Freddie Mac, Ginnie Mae, and FHA/VA, but also and importantly, global investors who hold claims to portions of mortgage pools that have been aggregated by investment banks, layered with private insurance, and graded by private rating agencies.

Explanations of the mortgage debacle range from lenders’ greed and borrowers’ naiveté on the one hand, to all actors in the drama merely responding to the incentives in front of them. The greed-cum-naiveté story leads us

in the direction of sturdier consumer protection, such as the Federal Reserve’s proposed revisions to its Truth in Lending regulation (adopted under the Home Ownership and Equity Protection Act), higher standards for state banking supervisors, who license mortgage brokers, and stronger financial literacy programs.

The incentives story reminds us that human nature is susceptible to the lure of the fast buck, such as the chance to earn excessive returns from mortgage-backed securities or buying a house with no money down. In recent years, mortgage lures became so powerful that investors happily filled the entire structure—from wholesale investment bankers to retail mortgage brokers—with cash, all fees and commissions paid up front. And many borrowers, it is said, tried to live beyond their means either by borrowing heavily to acquire a home or maintaining their living standards by cashing out equity built up in better times. Not having to put much equity into the deal, and having low monthly payments, created strong incentives for home buyers hoping to live the American Dream.

So how can we build a stronger structure for financing mortgages? Several ideas are being advanced, including more borrower equity in the deals; more disclosure to borrowers about the terms and conditions of the loan; better education for borrowers before they shop for loans; greater investor liability for any illegal, unfair, or abusive practices committed earlier in the ownership chain.

Lawmakers and regulators are finding some holes in the mortgage finance industry that merit repair, but they should realize that the industry participants—brokers, originators, investment bankers, rating agencies, and consumers—are also likely to change their behavior in response to the market forces unleashed by the current fiasco. There is every reason to believe that the rehabbed industry will be sturdier than the one it replaces and able to protect everyone it serves from losing the roofs over their heads.

December Price Statistics

02.15.08

by Michael F. Bryan and Brent Meyer

December Price Statistics

	Percent change, last					2006 avg.
	1mo. ^a	3mo. ^a	6mo. ^a	12mo.	5yr. ^a	
Consumer Price Index						
All items	3.4	5.6	3.3	4.1	3.0	2.6
Less food and energy	2.9	2.7	2.6	2.4	2.1	2.6
Median ^b	3.2	3.3	2.9	2.9	2.5	3.1
16% trimmed mean ^b	3.3	3.5	2.8	2.8	2.4	2.7
Producer Price Index						
Finished goods	-0.7	13.3	7.0	6.8	4.3	1.6
Less food and energy	2.2	2.2	2.0	2.1	1.8	2.1

a. Annualized.

b. Calculated by the Federal Reserve Bank of Cleveland.

Sources: U.S. Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

The Consumer Price Index (CPI) rose at an annualized rate of 10.0 percent in December, down from November's 10.0 percent increase, but still slightly elevated compared to its long-term (5-year) trend. Measured over the last three months, retail prices have outpaced their 6-month, 12-month, and 5-year averages. The CPI advanced 4.3 percent in the fourth quarter, compared with 1.9 percent in the third. The CPI excluding food and energy (core CPI) increased 2.9 percent during the month, outpacing all of its longer-term trends. Both the median and 16 percent trimmed-mean CPI measures increased more than 3.0 percent in December, rising 3.2 and 3.3 percent, respectively.

The 12-month growth rate in the CPI ticked down to 4.1 percent in December from 4.4 in the previous month, but it is still substantially higher than August's 2.0 percent reading.

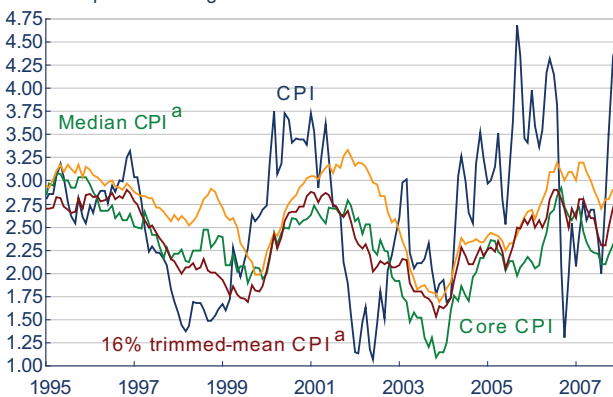
Almost 57 percent of the components of the CPI advanced at rates exceeding 3 percent in December, compared to a little less than 50 percent for 2007 on average. Another fact attesting to some upward price pressure from the component-price-change distribution is that only 14 percent of the index's components declined during the month, while the average over 2007 was 24 percent.

An example of the recent price pressures reflected in the component price change distribution is the recent trend in medical care prices. Over the past six months, medical care prices have risen at an annualized average of 5.6 percent, compared to an average monthly increase of 4.2 percent over the past 10 years. This has pushed the longer-term growth rate from 4.0 percent to 5.1 percent during the last six months.

Some argue that commodity prices are a leading indicator of inflation, as they measure material input costs for producers, and increases in them

CPI, Core CPI, and Trimmed-Mean CPI Measures

12-month percent change

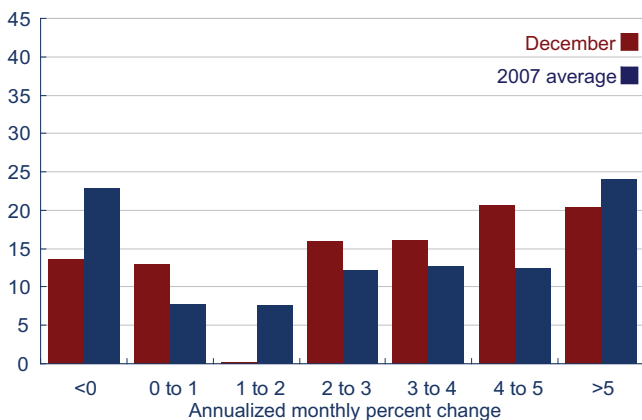


a. Calculated by the Federal Reserve Bank of Cleveland.

Sources: U.S. Department of Labor, Bureau of Labor Statistics, and Federal Reserve Bank of Cleveland.

CPI Component Price Change Distributions

Weighted frequency



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

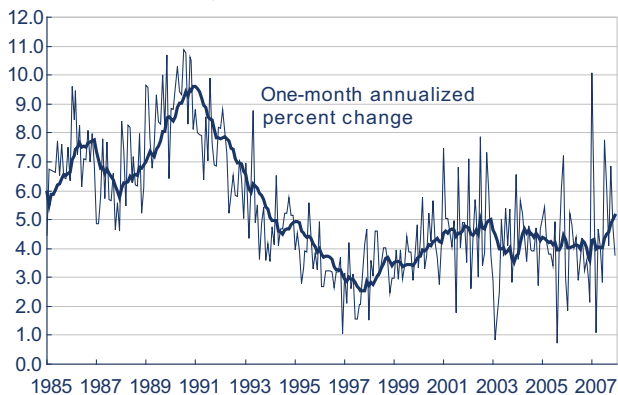
may eventually be passed on to retailers. The commodity spot price index, constructed by the Commodity Research Bureau, has risen 47 percent from August 2005, but the increases have been moderating lately. On a year-over-year basis, the series has fallen from 24.6 percent in June to 16.9 percent in December, with the raw materials index following a similar trend.

The 12-month growth rate in core goods decelerated throughout most of 2007 and is currently at 0.1 percent. The longer-term trend in core service prices has fallen slightly, from 3.8 percent at the beginning of the year to 3.3 percent in December.

Looking forward, professional forecasters see inflation moderating through the first half of 2008 and trending slightly above 2.0 percent throughout 2009, but these projections were made before the release of December's CPI report. The Blue Chip panel's inflation forecast has grown more pessimistic over the past two months, and this latest CPI report may continue that trend.

CPI: Medical Care

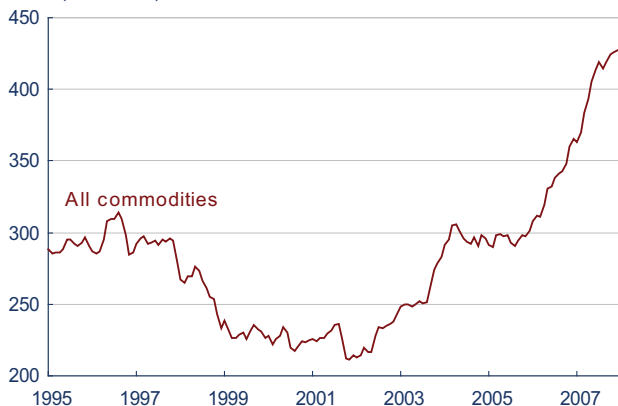
12-month percent change



Source: U.S. Department of Labor, Bureau of Labor Statistics

Commodity Spot Prices (indexed)

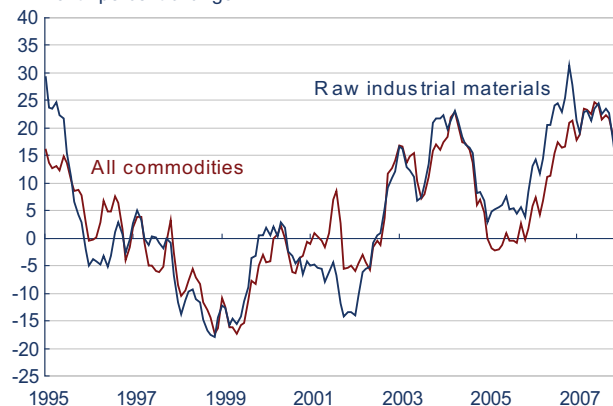
Index (1967=100)



Source: Commodity Research Bureau.

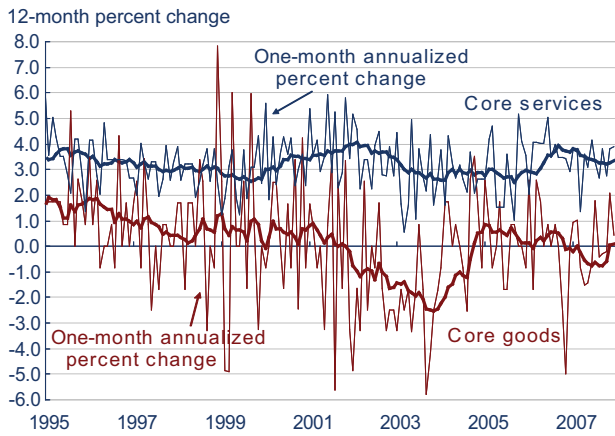
Commodity Spot Prices (percent change)

12-month percent change



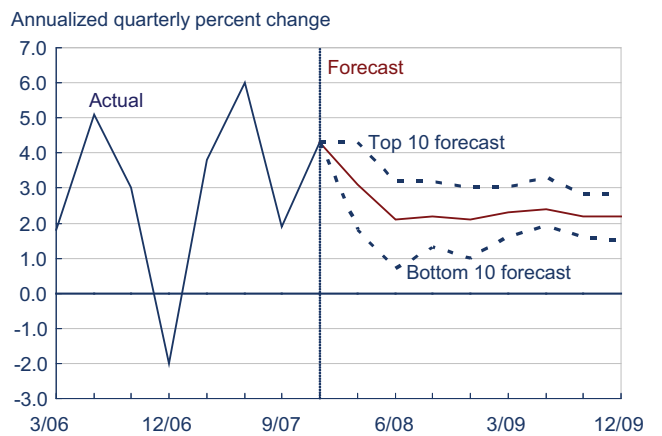
Source: Commodity Research Bureau.

Core CPI Goods and Core CPI Services



Source: U.S. Department of Labor, Bureau of Labor Statistics.

CPI and Forecasts



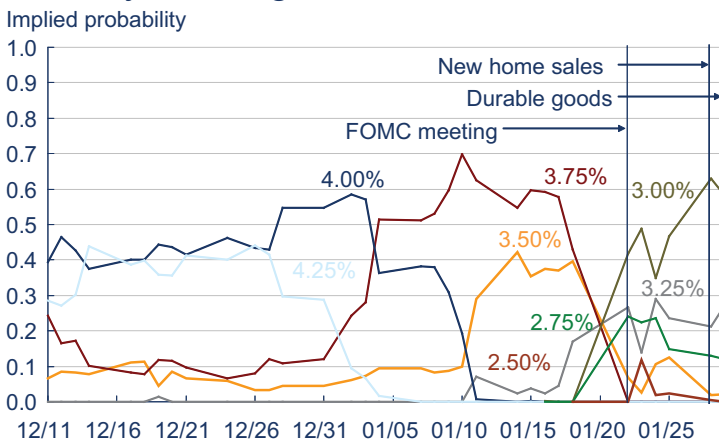
Sources: Blue Chip panel of economists, January 10, 2007.

Money, Financial Markets, and Monetary Policy Another Move, but with Less Surprise

01.31.08

by John Carlson and Sarah Wakefield

January Meeting Outcomes



At its scheduled meeting yesterday, the Federal Open Market Committee (FOMC) lowered its target for the federal funds rate 50 basis points to 3 percent. In the post-meeting statement the FOMC noted that, “Financial markets remain under considerable stress, and credit has tightened further for some businesses and households. Moreover, recent information indicates a deepening of information of the housing contraction as well as some softening in labor markets.”

In its assessment of risks the FOMC indicated that the “policy action, combined with those taken earlier, should help to promote moderate growth over time and mitigate the risks to economic activity. However, downside risks to growth remain.”

Yesterday’s decision followed just nine days after the January 21 decision to lower the target 75 basis points to 3.5 percent. That move, taken at an unscheduled meeting, surprised participants in fed funds futures and options markets. Until that decision, traders had not seriously entertained the prospect that the fed funds rate would be as low as 3 percent after yesterday’s meeting. After the new target was announced, market participants began to place some probability that the outcome could go as low as 2.5 percent.

One-Month LIBOR Spread



Note: Daily observations. LIBOR spread is the one-month LIBOR rate minus the one-month OIS Rate.
Sources: Bloomberg Financial Services and Financial Times.

Three-Month LIBOR Spread



Note: Daily observations. LIBOR spread is the three-month LIBOR rate minus the three-month OIS Rate.

Sources: Bloomberg Financial Services and Financial Times.

Over the past week, however, the market gained confidence that the FOMC would choose 3 percent as its new target.

Equity markets greeted the FOMC decision by swinging wildly. Initially equity prices reacted favorably, jumping almost two percentage points. The excitement was short-lived, however, as prices fell sharply near the end of trading, ending the day down about one-half percentage point.

Although credit terms have tightened further for some businesses and households, concerns about liquidity have lessened substantially. The spread between the term borrowing rate in the London interbank market (LIBOR) and the cash market rate (OIS), is a closely watched indicator of liquidity conditions. Spreads for both one-month and three-month borrowings have declined well off recent peaks, although they remain above more normal levels.

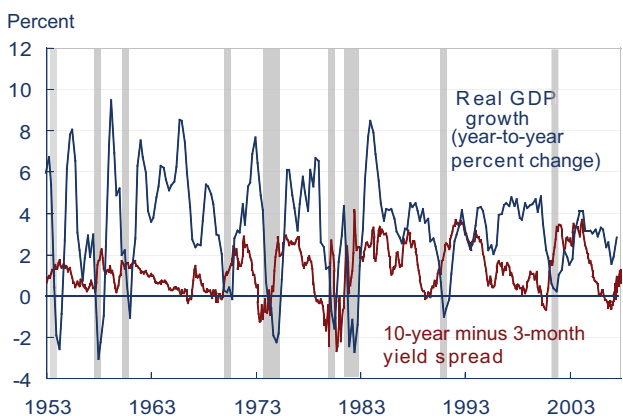
Money, Financial Markets, and Monetary Policy

What Is the Yield Curve Telling Us?

01.30.08

by Joseph G. Haubrich and Katie Corcoran

Yield Spread and Real GDP Growth*



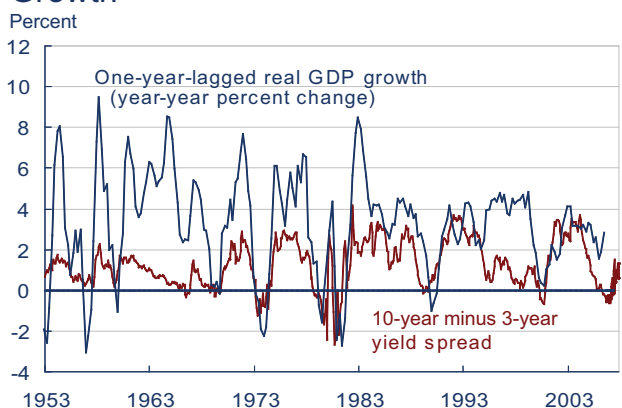
*Shaded bars represent recessions.

Sources: Bureau of Economic Analysis; Federal Reserve Board.

Since last month, both long-term and short term interest rates have decreased, with short rates dipping more, leading to a steeper yield curve. One reason for noting this is that the slope of the yield curve has achieved some notoriety as a simple forecaster of economic growth. The rule of thumb is that an inverted yield curve (short rates above long rates) indicates a recession in about a year, and yield curve inversions have preceded each of the last six recessions (as defined by the NBER). Very flat yield curves preceded the previous two, and there have been two notable false positives: an inversion in late 1966 and a very flat curve in late 1998. More generally, though, a flat curve indicates weak growth, and conversely, a steep curve indicates strong growth. One measure of slope, the spread between 10-year bonds and 3-month T-bills, bears out this relation, particularly when real GDP growth is lagged a year to line up growth with the spread that predicts it.

Yield Spread and Lagged Real GDP Growth

Growth



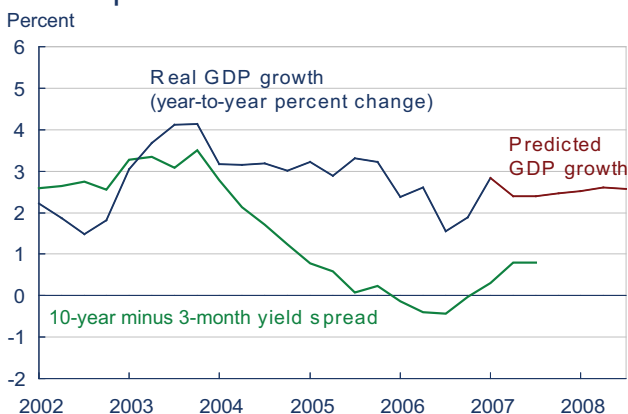
Sources: Bureau of Economic Analysis; Federal Reserve Board.

The yield curve has continued getting steeper, although both short and long rates have fallen recently. The spread remains positive, with the 10-year rate at 3.58 percent, while the 3-month rate jumped down to 2.31 percent (both for the week ending January 25). Standing at 127 basis points, the spread is above December's 120 basis points and November's 82 basis points. Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 2.6 percent rate over the next year. This is broadly in the range of other forecasts.

While such an approach predicts when growth is above or below average, it does not do so well in predicting the actual number, especially in the case of recessions. Thus, it is sometimes preferable to focus on using the yield curve to predict a discrete event: whether or not the economy is in recession. Looking at that relationship, the expected chance of the economy being in a recession next January stands at 4.8 percent, down a bit from December's 5 percent and November's 9 percent.

The probability of recession is below several recent estimates, and perhaps seems strange in the midst of recent financial concerns, but one aspect of those concerns has been a flight to quality, which lowers Treasury yields, and a reduction in both the federal funds target rate and the discount rate by the Federal Reserve, which tends to steepen the yield curve. Furthermore, the forecast is for where the economy will be next January, not earlier in the year.

Yield Spread and Predicted GDP Growth

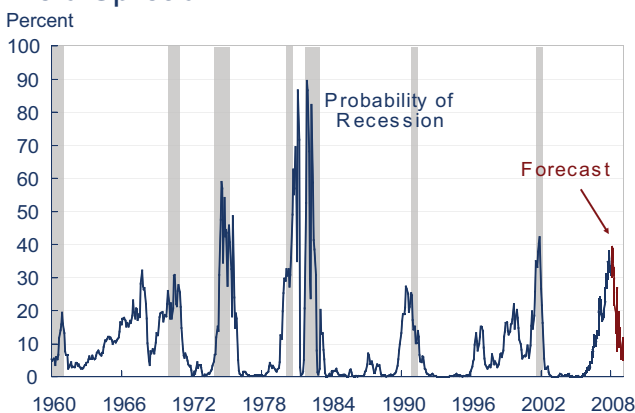


Sources: Bureau of Economic Analysis; Federal Reserve Board.

The 4.8 percent given by our approach is close to the 9.5 percent calculated by James Hamilton over at Econbrowser (though we are calculating different events: Our number gives a probability that the economy will be in recession a year from now; Econbrowser looks at the probability that the quarter the second quarter of 2007 was in a recession.)

Of course, it might not be advisable to take this number quite so literally, for two reasons. First, this probability is itself subject to error, as is the case with all statistical estimates. Second, other researchers have postulated that the underlying determinants of the yield spread today are materially different from the determinants that generated yield spreads during prior decades. Differences could

Probability of Recession Based on the Yield Spread*



*Estimated using probit model.

Sources: Bureau of Economic Analysis; Federal Reserve Board; and author's calculations.

arise from changes in international capital flows and inflation expectations, for example. The bottom line is that yield curves contain important information for business cycle analysis, but, like other indicators, they should be interpreted with caution.

For more detail on these and other issues related to using the yield curve to predict recessions, see the Commentary “Does the Yield Curve Signal Recession?”

International Markets

Chinese Inflation and the Renminbi

02.07.08

By Owen F. Humpage and Michael Shenk

China is increasingly worried about its inflation rate, which topped 6.5 percent on a year-over-year basis in December. One thing that the People’s Bank of China might do to garner more control over inflation is to allow its exchange rate more flexibility.

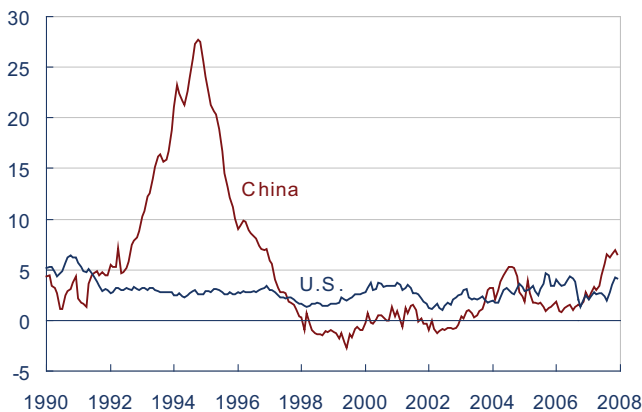
Over the last decade, China has managed the renminbi-dollar exchange rate closely. Between 1998 and July 2005, the People’s Bank pegged the renminbi at 8.28 per U.S. dollar. In mid 2005, the People’s Bank loosened its reigns on the exchange rate and has since allowed the renminbi to appreciate 12½ percent relative to the dollar. Given China’s trade surplus with the United States, many observers think that a larger renminbi appreciation is in order.

Many believe that China manages the renminbi-dollar exchange rate to encourage a large trade surplus with the United States and to attract strong inward direct foreign investments. There is, however, another element to the story. China limits the ability of its residents to reinvest the dollars that they acquire through trade and inward investments outside of the country. Instead, they must exchange the lion’s share of these dollars—and other foreign currencies—for renminbi with the People’s Bank. This strategy has contributed to China’s acquisition of a huge portfolio of foreign exchange. Economists guess that nearly 70 percent of this portfolio is held in liquid U.S. dollar assets, like U.S. Treasury securities.

When Chinese residents fork over the funds to the People’s Bank, they receive renminbi in exchange, and the renminbi monetary base—a narrow mea-

Inflation Rates

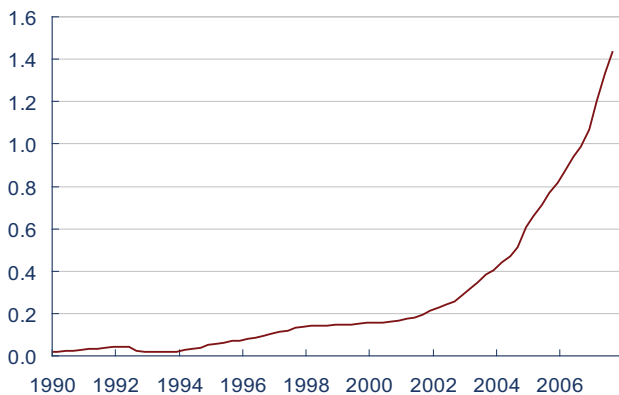
12-month percent change



Sources: International Monetary Fund, *International Financial Statistics* and Bureau of Labor Statistics.

China's Foreign Exchange Reserves

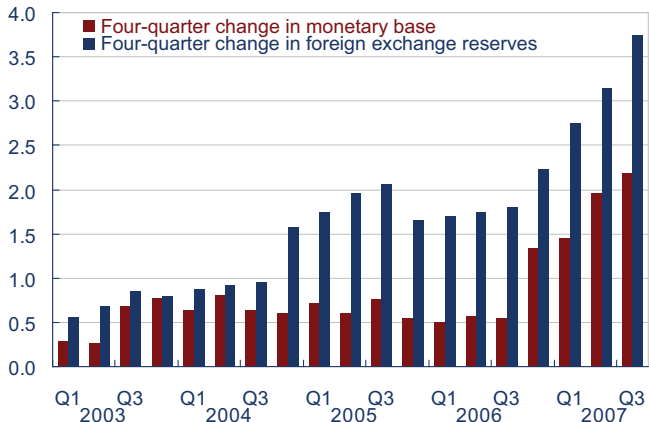
Trillions of U.S. dollars



Sources: International Monetary Fund, *International Financial Statistics*.

Sterilization of Reserve Flows

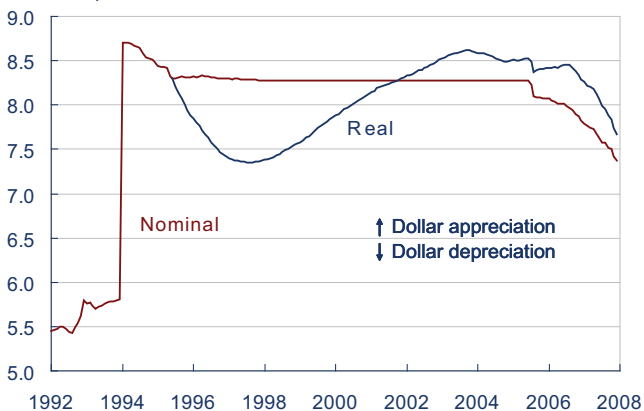
Trillions of renminbis



Sources: International Monetary Fund, *International Financial Statistics*.

Renminbi Dollar Exchange Rate

Renminbi per U.S. dollar



Sources: Sources: International Monetary Fund, *International Financial Statistics* and Bureau of Labor Statistics.

sure of money—expands. For many years, this was not a problem. China's economy grew quickly, and the expanding monetary base accommodated that growth. If anything, money growth often seemed too slow. Between 1998 and 2003, prices in China frequently fell, suggesting that money growth was not keeping pace with the economic expansion. By 2003, however, China's reserve accumulation started to accelerate, and inflation began warming up.

In 2003, the People's Bank started to offset—or sterilize—the expansionary effects of its official reserve accumulation on its monetary base by selling renminbi bonds to the banking system. The bond sales drained away part of the renminbis created when the People's Bank bought dollars. Since then, the People's Bank has sterilized nearly one-half of the effects of its reserve accumulation on the monetary base. This suggests that the banking system is holding a lot of low-yielding sterilization bonds, which, in such a vibrant growing economy, must have a significant opportunity cost.

But the People's Bank has probably made money from the deal over the past few years, since the yield on U.S. Treasury securities has exceeded the interest rate on short-term Chinese securities. Since last summer, however, those profits may have disappeared, as inflation in China has pushed rates on the Bank's short-term instruments up and turmoil in financial markets has pushed yields on U.S. Treasury securities lower.

The People's Bank has taken other measures to reduce inflationary pressures in China. Since the beginning of 2007, it has raised reserve requirement 11 times, reaching a new high. In addition, the central bank has hiked official (and administered) lending and deposit rates. Observers widely anticipate further moves to tighten monetary policy and lower the inflation rate.

Ironically, China's tight management of the renminbi-dollar exchange rate seems to be eroding its competitive position, albeit ever so slightly thus far. Exchange rates are not the only thing that matters for a country's competitive position. Inflation in China relative to inflation in the United States also affects the relative price of goods. Over the past year, the rate of inflation in China has exceeded the rate

of inflation in the United States. The real renminbi-dollar exchange rate combines all three of these variables—the conventional exchange rate, inflation in China, and inflation in the United States—into a convenient metric. Since its peak in August 2006, the dollar has depreciated 9 percent against the renminbi in real terms, compared to 7½ percent in conventional exchange-rate terms. To be sure, this differential is not a big deal, but it does bolster our point. China might get better control over inflation by adopting more exchange-rate flexibility.

Ironically, China's tight management of the renminbi-dollar exchange rate seems to be eroding its competitive position, albeit ever so slightly thus far. Exchange rates are not the only thing that matters for a country's competitive position. Inflation in China relative to inflation in the United States also affects the relative price of goods. Over the past year, the rate of inflation in China has exceeded the rate of inflation in the United States. The real renminbi-dollar exchange rate combines all three of these variables—the conventional exchange rate, inflation in China, and inflation in the United States—into a convenient metric. Since its peak in August 2006, the dollar has depreciated 9 percent against the renminbi in real terms, compared to 7½ percent in conventional exchange-rate terms. To be sure, this differential is not a big deal, but it does bolster our point. China might get better control over inflation by adopting more exchange-rate flexibility.

Real GDP Fourth-Quarter 2007 Advance Estimate

02.05.07

By Brent Meyer

Real GDP and Components 2007: Fourth-Quarter Advance Estimate

	Quarterly change (billions of 2000\$)	Annualized percent change, last:	
		Quarter	Four quarters
Real GDP	18.5	0.6	2.5
Personal consumption	40.5	2.0	2.5
Durables	12.8	4.2	4.8
Nondurables	11.2	1.9	1.7
Services	18.7	1.6	2.5
Business fixed investment	25.4	7.5	7.4
Equipment	9.9	3.7	3.7
Structures	11.6	15.8	16.0
Residential investment	-30.6	-23.9	-18.3
Government spending	13.1	2.6	2.5
National defense	-0.8	-0.6	1.4
Net exports	12.1	—	—
Exports	13.8	3.9	7.7
Imports	1.6	0.3	1.4
Change in business inventories	-34.0	—	—

Source: Bureau of Labor Statistics.

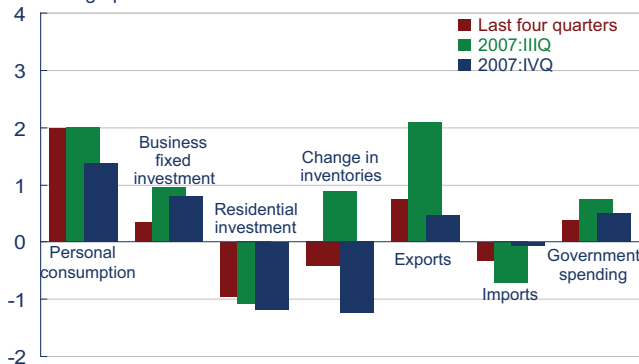
Real GDP grew at an annualized rate of 0.6 percent (weaker than expected) in the fourth quarter of 2007, according to the advance release by the Bureau of Economic Analysis. This marked deceleration from the third quarter's growth of 4.9 percent primarily reflects a slowdown in private investment, personal consumption, exports, and federal government expenditures. Gross private domestic investment decreased 10.2 percent in the fourth quarter, as residential investment continued to lose ground, falling 23.9 percent in the fourth quarter after having fallen 20.5 percent in the third. Business inventories fell \$34.0 billion during the quarter, after adding \$24.8 billion last quarter. Exports decelerated from an increase of 19.1 percent in the third quarter to a gain of 3.9 percent in the fourth. Imports and federal government consumption were left virtually unchanged from a quarter ago, both series rising only 0.3 percent. Personal consumption rose 2.0 percent in the fourth quarter, compared to 2.8 percent in the third.

Personal consumption contributed 1.4 percentage points to the percent change in real GDP, which is slightly off its pace over the past four quarters, when it contributed 2.0 percentage points to growth. The housing correction continued to dampen GDP growth in the fourth quarter, taking away 1.2 percentage points, after having reduced it a similar 1.1 percentage points last quarter. Inventories more than reversed last quarter's 0.9 percentage point addition, deducting 1.3 percentage points from growth.

Real private inventories fell \$3.4 billion at a (seasonally adjusted annualized) rate in the fourth quarter, their first decrease since the second quarter of 2003. Since the beginning of 2004, inventory growth has been trending down and has averaged \$27.1 billion since coming out of the last recession, compared to a \$43.0 billion quarterly average during the last business cycle.

Contribution to Percent Change in Real GDP

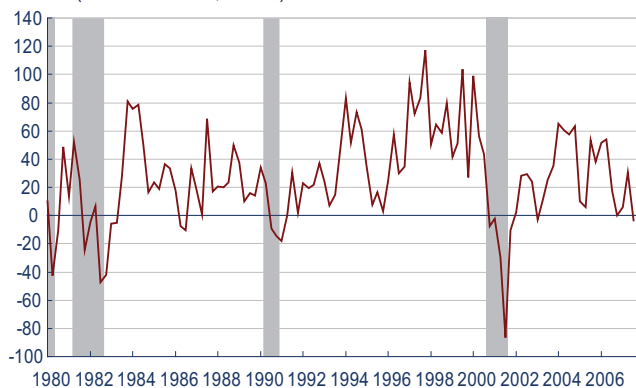
Percentage points



Source: Bureau of Economic Analysis.

Real Change in Private Inventories

Billions (Chained 2000\$, SAAR)

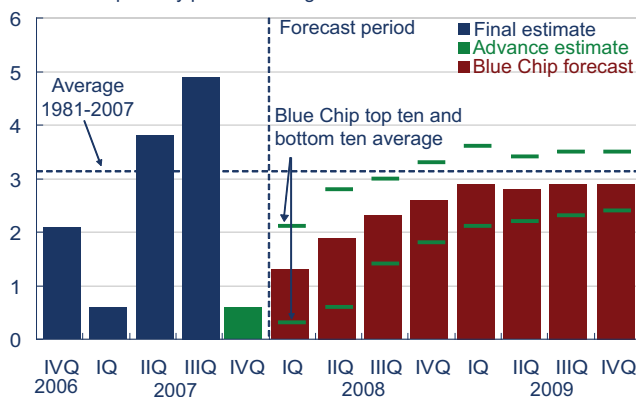


Source: Bureau of Economic Analysis.

Looking forward, the Blue Chip panel of economists expect below-trend real GDP growth of 2.2 percent in 2008. Recent data releases have been somewhat weak, especially on the housing side, hinting that first-quarter growth will be slow. Indeed, the Blue Chip panel expects first-quarter growth to be 1.3 percent, before steadily rising closer to trend growth by 2009.

Real GDP Growth

Annualized quarterly percent change



Source: Blue Chip Economic Indicators, January 2008; Bureau of Economic Analysis.

Economic Activity

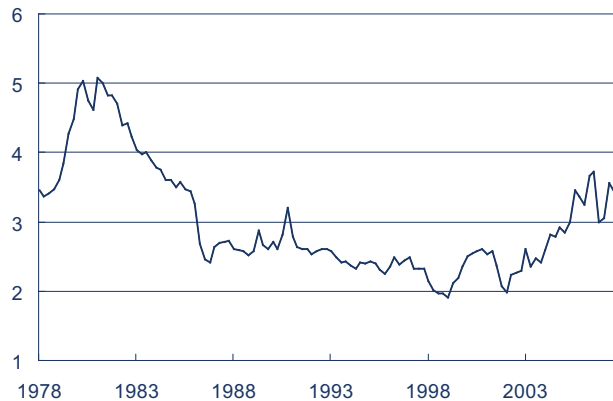
The Pass-through of Oil Prices to Gasoline Prices

02.06.07

By Andrea Pescatori and Beth Mowry

Gas Expenditure as a Portion of Total Consumption Expenditure

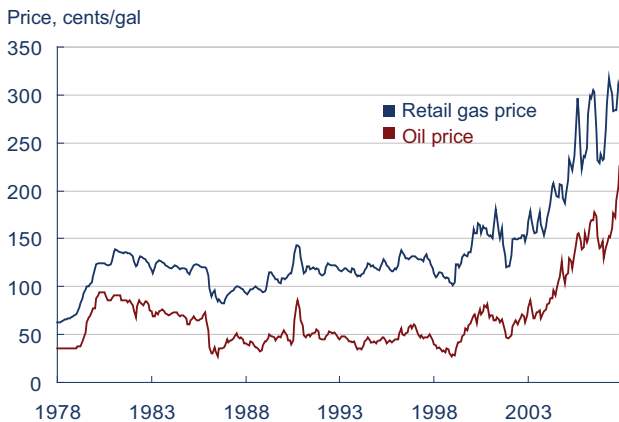
Percent



Source: Bureau of Economic Analysis.

Changes in the price of gasoline, particularly in the last few years, have been closely watched by consumers. Gasoline expenditure is a substantial part of the average household's total consumption expenditure, ranging from 2 percent to 5 percent since the late 1970s. Moreover, the share of household expenditure that must be devoted to gasoline is affected by changes in the relative price of gasoline, tending to rise when gas prices spike, because it is hard to adjust the quantity of gasoline consumed, especially in the short run. Economists say that the demand for gasoline has a low price-elasticity of substitution. In other words, changes in gasoline prices have a strong impact on the consumption of other goods and services as well as of gasoline.

Gasoline and Crude Oil Prices



a. All types of gasoline, U.S. city average retail price, including taxes.
 b. West Texas Intermediate monthly spot crude oil prices.
 Source: Energy Information Administration and The Wall Street Journal.

The single most important factor affecting the price of gasoline is the price of crude oil, which accounts for roughly half of the price of a gallon of gas at the pump. About 45 percent of the oil refined in the world today winds up as gasoline, which makes it the primary product of the downstream oil industry. The remainder of each barrel of oil yields byproducts like jet fuel, kerosene, heating oil, and diesel. After the cost of oil, a substantial share of the pump price comes from federal, state, and sometimes local taxes, refining margins (that is, the costs and return of refiners), the retailer's markup, and distribution and marketing margins.

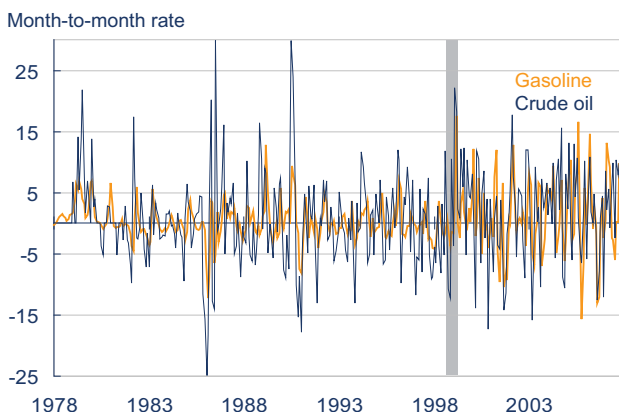
The ratio between the price of a gallon of average-grade gasoline at the pump and the price of crude oil per gallon—which we refer to as the gas-oil ratio—trended up from the late 1980s until 1999 but has been trending down recently.

Most of the change in the ratio over time has been caused by the effect of taxes. An excise tax is a given tax per unit, which means that when the gasoline price goes up the tax rate falls and vice versa. Notice that the highest tax rate, 60.7 percent, occurred when oil prices were at their record low of \$12.01 per barrel in February 1999.

However, taxes cannot account for the entire path of the gas-oil ratio and, in particular, for the recent downward trend. This trend might be explained by a compression of the margins in the downstream oil industry when oil prices are high. In particular, refiners—who contribute 10 percent–30 percent to the gasoline price—have been shrinking their margins on gasoline products, reflecting both a higher oil–gasoline transformation rate (thanks to technological progress) and lower returns on gasoline.

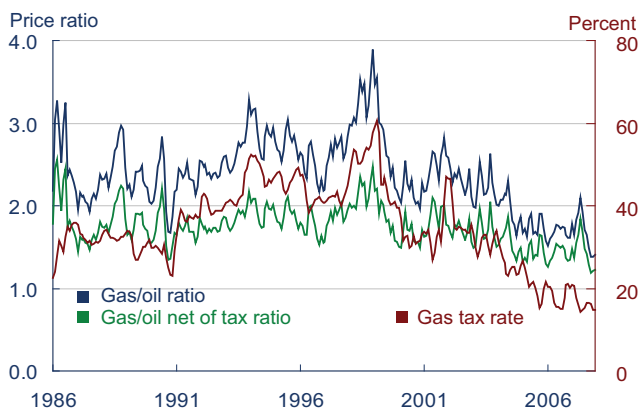
Lower returns could be due to higher competition in the industry or to the fact that companies have been trying to absorb some of the recent upward trend in oil prices rather than pass it entirely on to consumers. By doing so they hope to prevent a substantial change in the future demand for gasoline (its long-run price elasticity is higher than the short-run elasticity because consumers have more time to adjust to any price change). However, this tactic will be sustainable only if the trend in the price of crude oil reverses.

Gas and Oil Price Growth



Note: Shaded bar represents 1999.
 Source: Department of Energy and Energy Information Administration.

Gas/Oil Price Ratio



a. Gas/oil price ratio is U.S. city average retail gasoline price divided by WTI crude spot price.
 b. Gas/oil net of tax ratio is gas price excluding tax divided by oil price.
 c. Tax rate is gas price with tax divided by gas price without tax.
 Source: Energy Information Administration and The Wall Street Journal.

A glance at figure 3 above will confirm that the price of gas and the price of crude are highly correlated. But to determine how much of an oil price increase is passed on to the gasoline consumer, we need to look at the “oil-price pass-through,” which refers to the effect of changes in oil prices on changes in gas prices.

When we calculate the effect of contemporaneous and past changes in oil prices and gas taxes on the retail price of gasoline from 1986 to today, we find that, on average, less than half of an oil price change is passed to consumers. The time that it takes is relatively short; it passes through within the same month of the oil-price increase or in the month month after; on the other hand, changes in excise taxes do not appear to have a significant effect on the price of gasoline.

A casual observation of gas price changes over time suggests a remarkable change in the volatility of gasoline price after 1998 (the sample variance triples after 1999). Because the two periods differ so markedly, we redo the calculation of the pass-through, this time splitting the sample into two subsamples, one pre-1999 and one post-1998. In the earlier subsample, the pass-through is much lower and slower, amounting to about 30 percent over the course of two months. Furthermore, changes in taxes have a significant effect before 1999. In the more recent period, there has been a dramatic increase in the pass-through. After 1998, about 72 percent of a change in the price of oil passes through to gasoline consumers within a month’s time. If one looks at the pass-through before the effects of taxes are added to the calculation, the pass-through amounts to about 96 percent!

What the results from splitting the samples suggest is that the higher volatility of the gas price series could be attributed to a higher pass-through from oil prices. In fact, even if oil prices have not shown any particular increase in their volatility, the transmission of crude price fluctuations to gasoline prices has changed. The downstream oil industry is no longer smoothing fluctuations in the price of crude for U.S. households and it is no longer guaranteeing relatively stable gasoline prices. This could be due to more compressed margins within

the industry (a hypothesis not really supported by the data) or by limits in refineries' capacity (capacity utilization has been averaging above 90 percent in the past 10 years).

Finally, we recalculate the pass-through to see if positive and negative changes in oil prices affect gas prices the same way, and whether their pass-throughs have changed over time. We observe that in the pre-1999 sample, a decline in the price of oil had no effect on gas prices within one month, while in more recent years, a price decline has a strong pass-through of almost 50 percent within the same amount of time. In fact, after 1998, 95 percent of a decline in the price of oil passes through to gasoline prices within a month—this figure is about 100 percent after taking taxes into account. However, we also find that after 1998, the pass-through of oil price changes is often erased at the pump after about five months. This is true especially for oil price declines, which show a strong reversion effect at about five months. Oil price increases also show a somewhat weaker reversion effect. In other words, an initial reduction in gasoline prices due to a reduction in the price of crude oil will not last for long, unless the oil price reduction is sustained.

Economic Activity

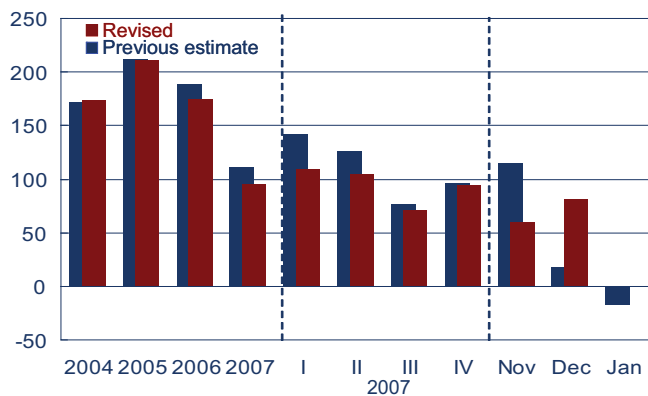
The Employment Situation

02.01.08

By Murat Tasci and Beth Mowry

Average Nonfarm Employment Change

Change, thousands of jobs



Source: Bureau of Labor Statistics.

Nonfarm payroll employment declined by 17,000 in January to 138,102. This indicates the first decline in nonfarm employment since August 2003. The total unemployment rate declined to 4.9 percent from the previous month's 5 percent, mostly due to a 42,000 decline in the civilian labor force. The Bureau of Labor Statistics (BLS) also revised its payroll employment numbers for the last two months. The November payroll employment gain was revised downward, from 115,000 to 60,000, whereas the December payroll employment change was revised upward, from 18,000 to 82,000. Overall, monthly payroll employment rose by 94,000 on average in the last quarter of 2007 and by 95,000 for the whole year.

Labor Market Conditions

	Average monthly change (thousands of employees, NAICS)				
	2004	2005	2006	2007 YTD	Jan 2008
Payroll employment	176	212	175	95	-17
Goods-producing	26	32	3	-37	-51
Construction	25	35	13	-19	-27
Heavy and civil engineering	1	4	3	-1	-8
Residential ^a	10	11	-2	-10	-28
Nonresidential ^b	2	4	7	1	9
Manufacturing	-1	-7	-14	-22	-28
Durable goods	8	2	-4	-15	-12
Nondurable goods	-9	-8	-10	-7	-16
Service-providing	148	179	172	132	34
Retail trade	16	19	5	7	11
Financial activities ^c	8	14	9	-8	-2
PBS ^d	39	56	46	27	-11
Temporary help svcs.	11	17	1	-7	-9
Education and health svcs.	33	36	39	45	47
Leisure and hospitality	26	23	32	30	19
Government	14	14	16	19	-18
Local educational svcs.	9	6	6	5	-4
	Average for period (percent)				
Civilian unemployment rate	5.5	5.1	4.6	4.6	4.9

a. Includes construction of residential buildings and residential specialty trade contractors.

b. Includes construction of nonresidential buildings and nonresidential specialty trade contractors.

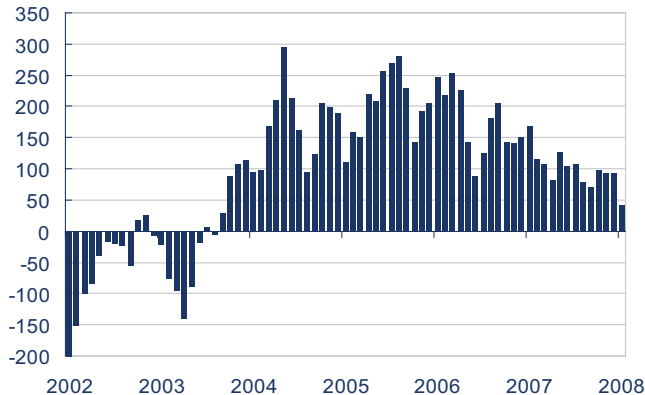
c. Includes the finance, insurance, and real estate sector and the rental and leasing sector.

d. PBS is professional business services (professional, scientific, and technical services, management of companies and enterprises, administrative and support, and waste management and remediation services).

Source: Bureau of Labor Statistics.

Private Sector Employment Growth

Change, thousands of jobs: 3-month moving average



Source: Bureau of Labor Statistics

Large contributors to January's job loss were construction (-27,000 jobs), manufacturing (-28,000), and government (-18,000). Among these sectors, construction and manufacturing have been declining throughout the past year, falling by 19,000 and 22,000 per month on average, respectively. Perhaps the main reason behind the decline in January's report was the weak service sector. Even though nonfarm payroll employment in services increased by 132,000 per month on average last year, it increased by only 34,000 in January, 2008, mostly led by a 47,000 gain in education and health services.

The three-month moving average of private sector employment growth shows a definite declining trend over the past year, and even more broadly over the past two years. Currently, the three-month moving average of private sector employment growth stands at 42,000, the lowest value since September 2003.

January's diffusion index slipped to 46.2, indicating that more industries cut back payrolls than added to them. Once again, this index value is the lowest it's been since August 2003.

These numbers all point to a weak labor market in January, with many sectors worsening from the previous month. However, as we always caution, monthly data are volatile and subject to revision. Payroll gains in December and January are subject to revision in the next report. The BLS also revises annual payroll numbers once a year, reflecting changes in seasonal adjustment factors and updates to the industrial classification system. The revision released with January's employment report also affected the past several years. As a result of this revision, the average monthly change in nonfarm payroll employment declined from 111,000 to 95,000 for 2007, and from 189,000 to 175,000 for 2006, and virtually did not change for 2004 and 2005.

Labor Market Conditions and Revisions

Average monthly change (thousands of employees, NAICS)

	Nov current	Revision to Nov	Dec current	Revision to Dec	Jan 2008
Payroll employment	60	-55	82	64	-17
Goods-producing	-52	-7	-61	14	-51
Construction	-57	-20	-45	4	-27
Heavy and civil engineering	-0.5	2	-4.9	-1	-8
Residential ^a	-52.4	-23	-32.3	-4	-28
Nonresidential ^b	-4.3	1	-8.1	9	9
Manufacturing	-3	10	-20	11	-28
Durable goods	2	4	-19	1	-12
Nondurable goods	-5	6	-1	10	-16
Service-providing	112	-48	134	50	34
Retail trade	44	12	-12	12	11
Financial activities ^c	-23	-7	-1	3	-2
PBS ^d	9	-30	70	27	-11
Temporary help svcs.	-8	-20	-7	-7	-9
Education and health svcs.	32	3	56	12	47
Leisure and hospitality	24	-11	22	0	19
Government	16	-12	28	-3	-18
Local educational svcs.	5	-5	14	-3	-4

a. Includes construction of residential buildings and residential specialty trade contractors.

b. Includes construction of nonresidential buildings and nonresidential specialty trade contractors.

c. Includes the finance, insurance, and real estate sector and the rental and leasing sector.

d. PBS is professional business services (professional, scientific, and technical services, management of companies and enterprises, administrative and support, and waste management and remediation services).

Source: Bureau of Labor Statistics.

Economic Activity and Labor

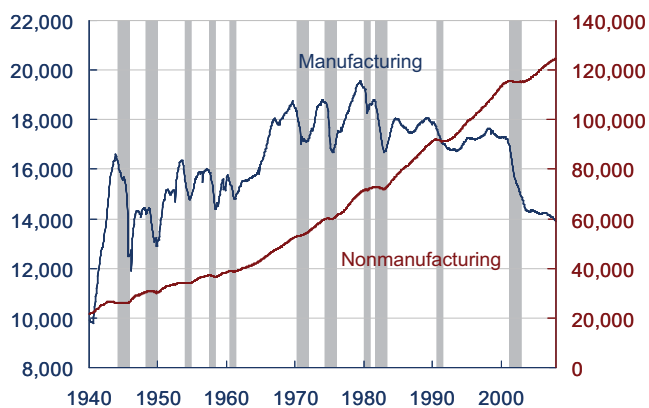
Manufacturing Employment

01.29.08

by Yoonsoo Lee and Beth Mowry

Payrolls In Manufacturing and Nonmanufacturing

Thousands of workers

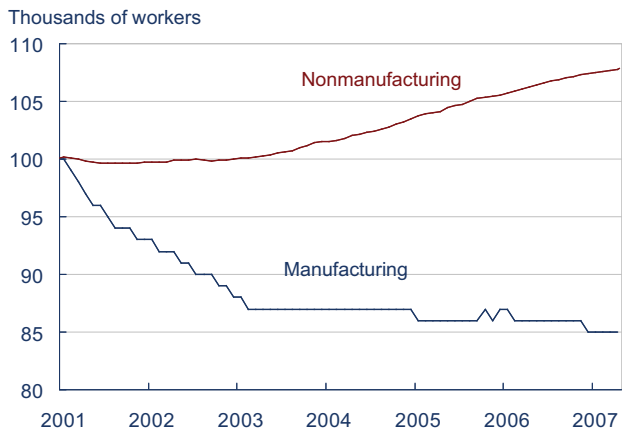


Note: Shaded bars indicate recession.

Source: Bureau of Labor Statistics.

Manufacturing in the United States has been on the decline since the early 1980s, shedding more than 5½ million jobs over the past three decades. The 13.9 million workers employed in manufacturing today are just a shadow of the peak of the 19.5 million employed in the sector back in 1979. Manufacturing employment also seems not to be recovering after recessions. It used to follow the same pattern as nonmanufacturing employment over the business cycle, contracting during recessions and rebounding and growing during recoveries. During the last two recoveries, however, manufacturing gains appear to have softened or disappeared altogether.

Nonfarm Employment Change since March 2001



Source: Bureau of Labor Statistics.

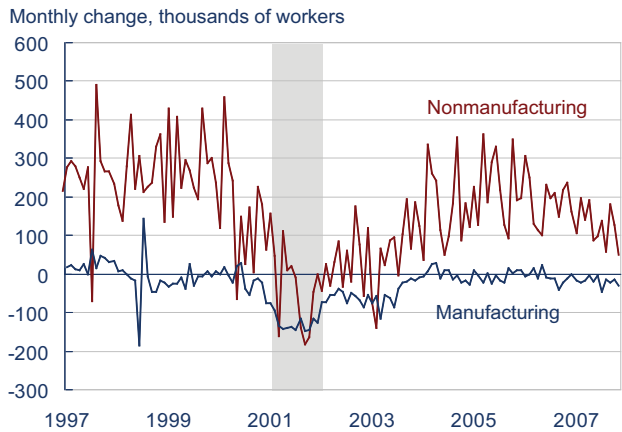
During the most recent recession in 2001, overall nonfarm employment growth stalled but eventually resumed its upward trend. Manufacturing employment, on the other hand, never recovered from its fall. An index of employment since the 2001 pre-recession peak shows that manufacturing employment is now only 85 percent of what it was at the peak. Nonfarm employment excluding manufacturing, in the meantime, has increased 8 percent.

Manufacturing and nonmanufacturing employment both took a big dive during the 2001 recession. Although the pace of expansion for both had started to soften in advance of the recession's onset, the nonmanufacturing sector continued to add jobs up until it started. In contrast, manufacturing started losing jobs during the summer of 2000, well before the recession began. Nonmanufacturing payrolls experienced a rebound afterward and worked back into expanding territory. The monthly decline in manufacturing payroll numbers, by comparison, has merely become less pronounced.

Economic indicators have received increased attention in recent months, as economists try to determine the extent to which housing troubles may have spilled over into the broader economy. Employment reports indicate a definite softening in the labor market. Nonmanufacturing jobs are still being added, but at a slowing pace. December's recent employment report, for example, showed a small gain of 18,000 nonfarm payrolls with a loss of 31,000 in manufacturing. Manufacturing numbers have been on a long-term decline and have not experienced even a modest gain since June 2006. While the manufacturing sector is losing employees, it is not losing them at such a dramatic rate as was observed before or during the 2001 recession. However, direct comparisons between 2001 and recent months requires caution because employment figures are subject to monthly and annual revisions.

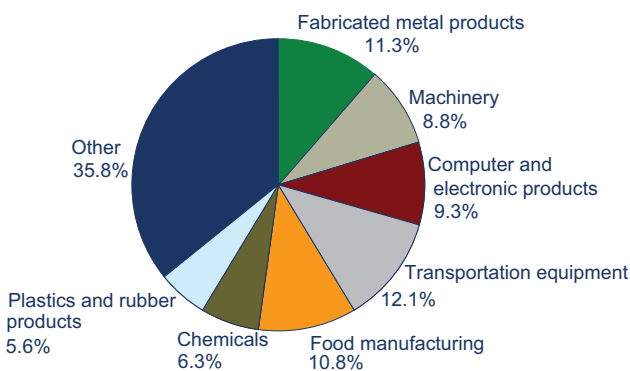
The pie chart above includes some of the largest manufacturing sectors. Transportation equipment, fabricated metal products, and food manufacturing account for about a third of manufacturing employment. Of all the subsectors within manufacturing, not a single one has added payrolls over the past decade. However, some sectors have borne

Nonfarm Employment Change Before and After 2001 Recession



Note: Seasonally-adjusted; Shaded bar indicates recession.
Source: Bureau of Labor Statistics.

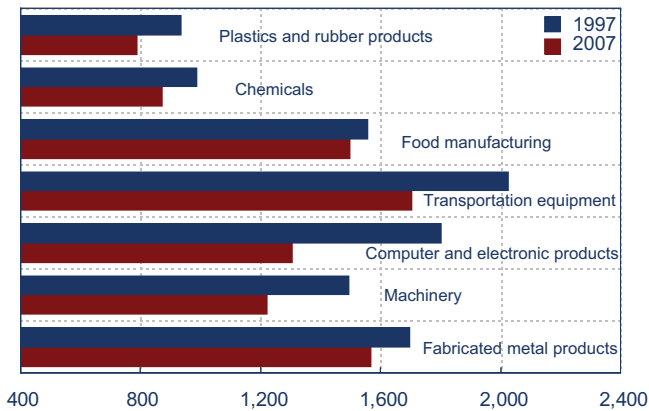
Major Manufacturing Sectors, 2007



Note: Employment shares as of December 2007.
Source: Bureau of Labor Statistics.

Employment Change in Major Manufacturing Sectors

Thousands of workers



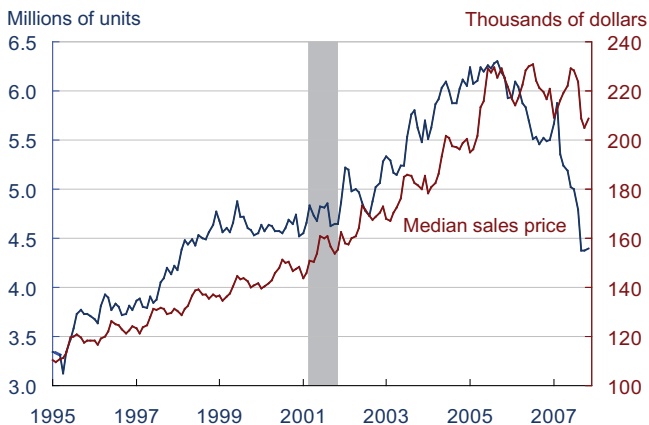
Source: Bureau of Labor Statistics, Haver Analytics.

a larger brunt of the industry's decline than others. While fabricated metal products and the food manufacturing sectors have held onto employees relatively well, losing just 7.5 percent and 3.9 percent of their payrolls since 1997, most areas did not fare so well. Computer and electronic products lost nearly 30 percent of their employees, and the printing and related activities sector lost nearly 25 percent. Apparel manufacturing took the worst hit of all categories and now has only 31 percent of the employees it had a decade ago. However, this sector is smaller than the others mentioned and accounted for only 4 percent of all manufacturing payrolls even before the drop.

Economic Activity and Labor

Housing Markets

Existing Single-Family Home Sales

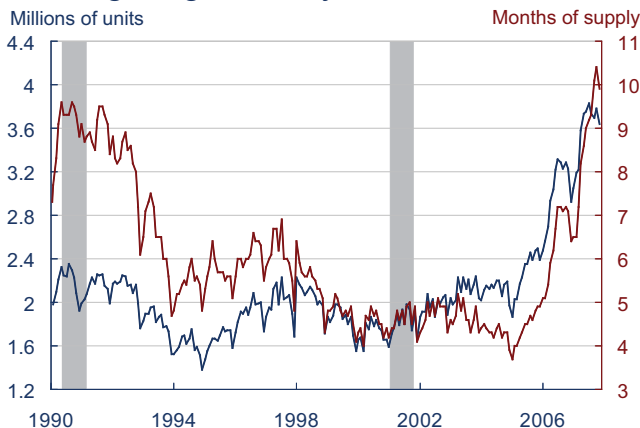


Note: Shaded bar indicates recession.
Source: National Association of Realtors.

01.18.07
by Michael Shenk

Existing single-family home sales were largely unchanged for the second consecutive month, as they increased a mere 0.7 percent in November. For the past three months, existing single-family home sales have hovered around the 4.4 million mark, perhaps providing some evidence of stabilization in the housing market. Sales of existing single-family homes have basically been free-falling for 26 months since peaking in September 2005 at 6.3 million units.

Existing Single-Family Homes for Sale

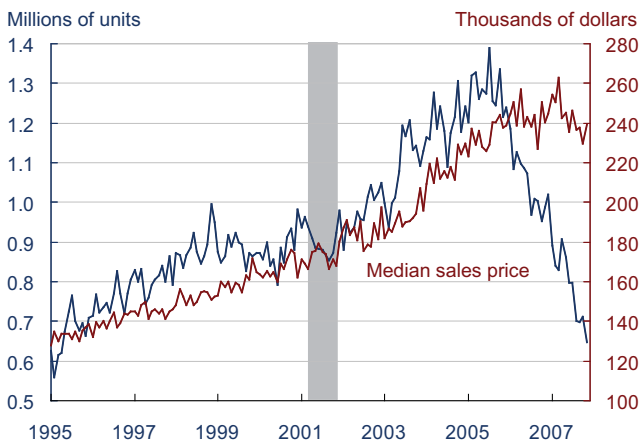


Note: Shaded bars indicate recession.
Source: National Association of Realtors.

If the market is going to stabilize, the inventory of existing single-family homes for sale will play a critical role. Currently, the inventory level in terms of actual homes on the market, while below its peak, has not yet shown any definitive signs of turning a corner and beginning to descend. Relative to the current sales pace, the supply of homes remains very much elevated at just under 10 months.

The market for new single-family homes, though smaller than the market for existing homes, is considered by some to be more of a leading indicator of housing activity because of when sales are recorded. Existing home sales are recorded at the time of closing, but new home sales are recorded when contracts are signed, a step much earlier in

New Single-Family Home Sales



Note: Shaded bar indicates recession.
Source: Census Bureau.

the home-buying process. Thus the fact that new single-family home sales fell 9.0 percent in November after three months of relative stability may give some optimists cause for concern.

Inventories of new homes for sale remained elevated in November. The actual number of homes on the market declined over the month, as it has done fairly regularly since peaking in July 2006. However, the level of inventory measured relative to the current sales pace has continued to increase during this period, as sales continued their rapid decline.

New Single-Family Homes for Sale



Note: Shaded bars indicate recession.
Source: Census Bureau.

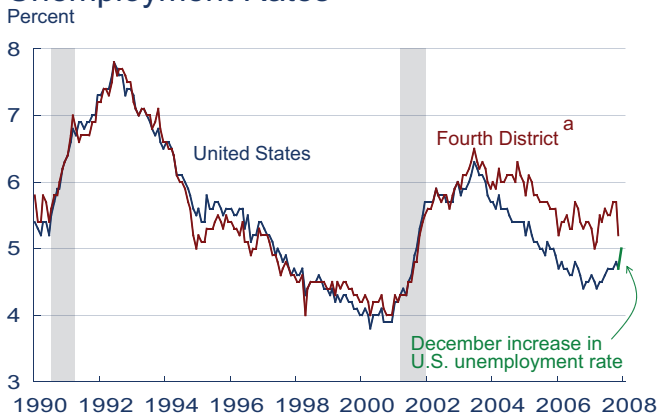
Regional Activity

The Ups and Downs in Regional Employment Statistics

01.31.08

By Tim Dunne, Guhan Venkatu and Kyle Fee

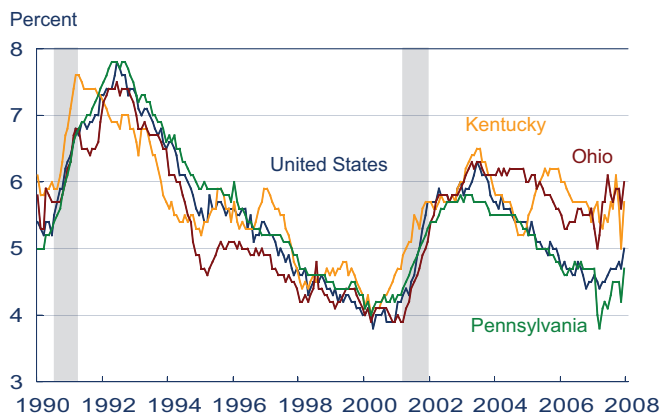
Unemployment Rates



a. Seasonally adjusted using the Census Bureau's X-11 procedure.
Note: Shaded bars represent recessions. Some data reflect revised inputs, reestimation, and new statewide controls. For more information, see <http://www.bls.gov/lau/launews1.htm>.
Source: U.S. Department of Labor and Bureau of Labor Statistics.

Our standard monthly employment report typically provides various employment statistics for the Fourth District and its major metropolitan areas. This month we take a different tack, as the District's November employment numbers varied widely from our expectations. The Fourth District's unemployment rate dropped sharply in November, falling to 5.2 percent from 5.7 percent in the previous month. Meanwhile, the national unemployment rate held relatively steady until December, when it saw a substantial increase of 0.3 percent. However, we are cautious about interpreting the large drop in the District's unemployment rate as a sign of an improving labor market.

Unemployment Rates in Three Fourth District States



Note: Shaded bars represent recessions. Some data reflect revised inputs, reestimation, and new statewide controls. For more information, see <http://www.bls.gov/lau/launews1.htm>.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

For one thing, the drop in the district’s unemployment rate is more likely the result of an atypical calendar and its effect on the way the data are reported than on something in the labor market.

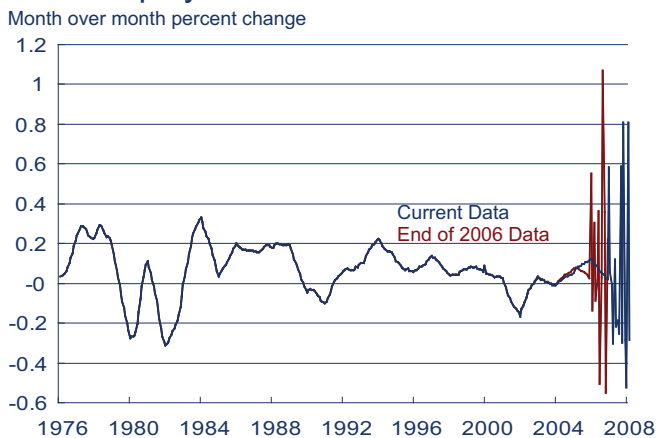
First, Thanksgiving fell very early this year and may have caused retailers to move their seasonal hiring up further in the month than in recent years. Second, in response to the early Thanksgiving holiday, the Labor Department and Census Bureau moved the “reference week” for the Current Population Survey—a key input into the estimation of state and county unemployment rates—to the week of November 4–10. The reference week is the week in a month during which individuals are asked about their employment status; normally, this is the week that contains the 12th of the month. The change in the reference week this month may have influenced November’s state-level statistics. Finally, the change of the reference week, combined with the early Thanksgiving, may have introduced more noise into the seasonal-adjustment process that is applied to remove from the data any seasonally-induced swings in the labor force, employment, and unemployment series.

A look at state-level unemployment rates supports this idea. November’s declines were completely reversed in December in Fourth District states. Ohio’s unemployment rate went from 5.6 percent to 6.0 percent, Pennsylvania’s from 4.2 percent to 4.7 percent, and Kentucky’s from 5.0 percent to 5.7 percent.

We can’t construct December’s unemployment rate for the Fourth District because data are not available yet for individual counties. However, we believe the trends in the state-level data will hold for the Fourth District as a whole.

A final word of caution on comparing monthly labor statistics. The 2007 data have not yet been revised and are not equivalent to those of earlier years. Revised data are updated and adjusted for seasonal factors, but they are also markedly less volatile, because the revision process smoothes out natural month-to-month fluctuations. To see this, look at the graph below, which shows the monthly percent changes in employment for Kentucky, Ohio, and Pennsylvania from 1988 to 2007. The data for 2007, which are unrevised,

Ohio Employment Data



Source: U.S. Department of Labor, Bureau of Labor Statistics.

show considerably more variation than the data for previous years. Note though that different degrees of smoothing emerge across states after revision. Ohio's post-revision data are relatively smooth, while Pennsylvania's retain significant month-to-month fluctuations. However, these differences are not evidence necessarily that Ohio's economy has lower month-to-month employment fluctuations than Pennsylvania's. Rather, they are more likely the result of differences in the way states modify their data during the revision process.

The next chart illustrates the degree of smoothing that can occur in these data series. The chart displays the month-to-month percentage change in the employment data both before and after the last annual revision for Ohio. Note that the data for 2006 prior to the revision (the red line) show high volatility but following the revision the series is smoothed for 2006 (the blue line). Revised 2007 employment data will be released at the end of February and will undoubtedly show much less month-to-month volatility.

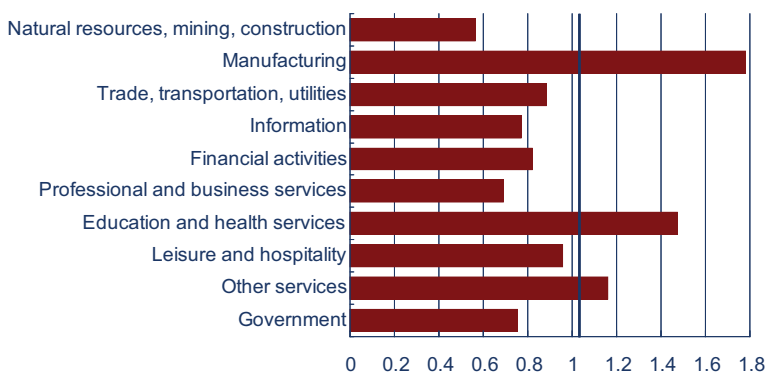
Regional Activity

The Erie Metropolitan Statistical Area

01.22.08

By Tim Dunne and Kyle Fee

Location Quotients for Erie MSA and the U.S., 2006



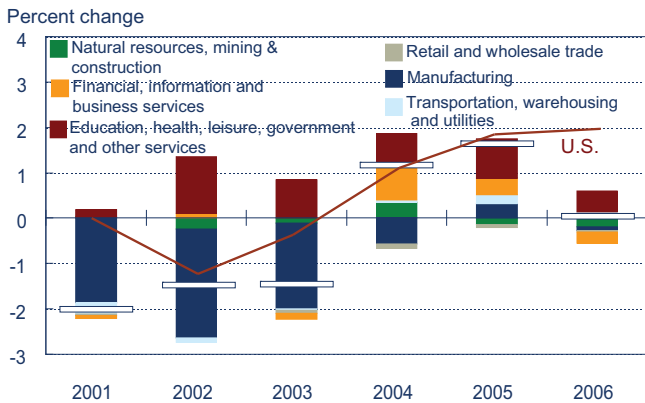
Note: A location quotient is the simple ratio of a given industry's employment share in one region to the industry's employment share in the nation. A location quotient of one indicates that the industry accounts for the same share of employment in the region and the nation.

Sources: U.S. Department of Labor, Bureau of Labor Statistics.

The Erie metropolitan statistical area (MSA) is located in the northwest corner of Pennsylvania on Lake Erie. Home to 279,811 people, Erie, a Great Lakes city, has an employment history of heavy industry and manufacturing. In 2006, Erie was still heavily invested in manufacturing industries, having about an 80 percent higher proportion of its workforce in manufacturing than the nation as a whole. Meanwhile, Erie's service industry workforce was proportionately higher in health services industries relative to the nation and lower in information, financial, and professional business and services industries.

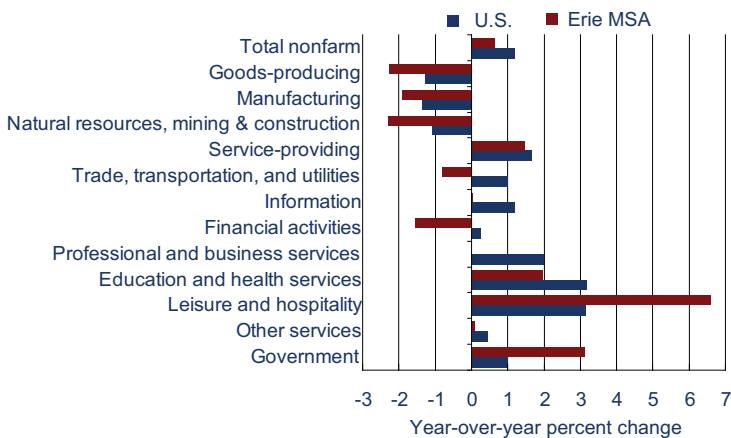
Looking at the components of annual employment growth in the Erie MSA, the strongest driver of employment growth from year to year has been the service sector industries of education, health, leisure, government and other services. Not surpris-

Components of Employment Growth, Erie MSA



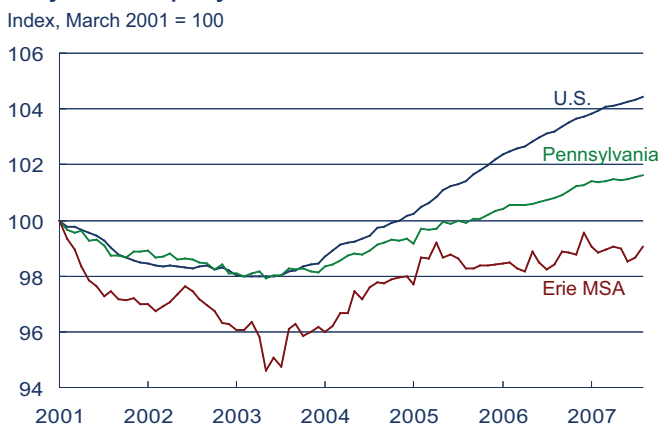
Note: The white bars represent total annual growth for the Erie MSA. The red line is U.S. growth.
Sources: U.S. Department of Labor and Bureau of Labor Statistics.

Payroll Employment Growth, October 2006 - October 2007



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Payroll Employment since March 2001



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

ingly, manufacturing employment is the biggest drag on Erie's employment growth.

Erie's most recent employment growth has come from growth in tourism-related industries. Erie's total nonfarm employment growth from October 2006 to October 2007 is 0.7 percent, while employment in the leisure and hospitality industries has jumped 6.6 percent over the same period. On the down side, goods-producing industries lost employment at a rate substantially above the national rate.

Since the last business cycle peak in March 2001, Erie lost 0.9 percent of its total nonfarm employment, compared to Pennsylvania's gain of 1.6 percent and the nation's gain of 4.4 percent. From its lowest employment levels in July of 2003, Erie has expanded its employment 4.5 percent. Over that same period, Pennsylvania's employment grew 3.7 percent and the nation's grew 6.5 percent.

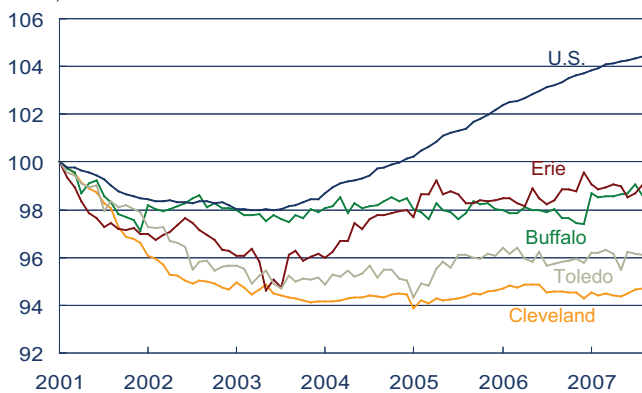
Compared to other cities on Lake Erie, Erie actually has performed reasonably well. While employment is still below the city's 2001 level (similar to the decline experienced by its neighbor to the north, Buffalo, New York), the Erie labor market has been stronger than Cleveland's or Toledo's.

Disaggregating employment into manufacturing and nonmanufacturing components, we see that the Erie metropolitan area underperformed relative to the U.S. average in both sectors. Since the last business cycle peak in March 2001, Erie lost 25.5 percent of its manufacturing jobs, while the nation lost 17.5 percent. This manufacturing drag on Erie's economy is particularly important because Erie has a much higher share of manufacturing than the United States as a whole. Alternatively, Erie's nonmanufacturing employment growth has tracked the national trend pretty closely over the past six years.

Like Buffalo and Cleveland, Erie's manufacturing employment has suffered a steep decline, though the time-series patterns for Buffalo and Cleveland differ. Erie's steepest drop occurred in the 2001–2003 period, but since mid-2003 it has stabilized somewhat, while in Buffalo and Cleveland it has continued to contract. Toledo's decline has mirrored that of the United States, though recently,

Payroll Employment since March 2001

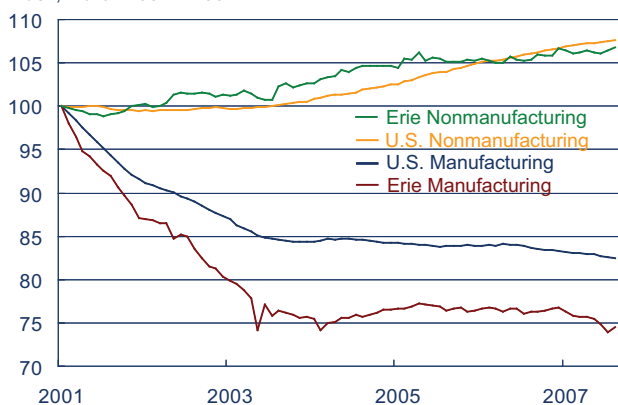
Index, March 2001 = 100



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Payroll Employment since March 2001

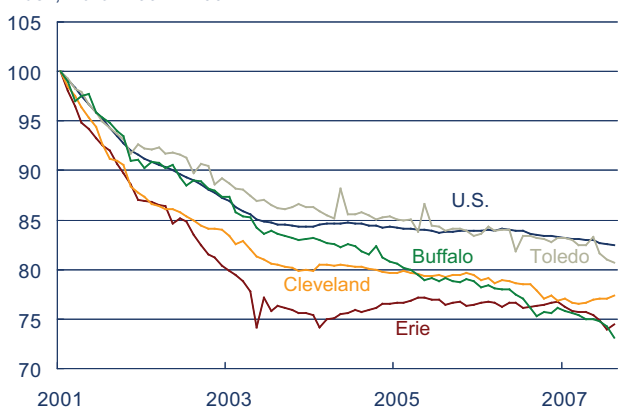
Index, March 2001 = 100



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Payroll Employment since March 2001, Manufacturing

Index, March 2001 = 100



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Toledo is showing some relative weakness.

Where Erie looks quite different from the other cities along Lake Erie is in the growth of nonmanufacturing employment. Erie has consistently added nonmanufacturing jobs at a faster rate than the other Lake Erie cities. Erie's 6.8 percent nonmanufacturing growth exceeds Buffalo's 2.7 percent gain, Toledo's 0.6 percent loss, and Cleveland's 1.5 percent loss.

The relatively slow growth of Erie's labor market is also reflected in the metro area's statistics on per capita personal income. Over the last six years, Erie's nominal growth in per capita income has been substantially lower than Pennsylvania's or the United States'. Nominal per capita income grew in Erie at 17.9 percent, while Pennsylvania and the United States had similar rates of 23.5 percent and 22.7 percent, respectively. Moreover, Erie has substantially lower per capita income. In 2006, the Erie metro area's per capita income was only 79 percent that of Pennsylvania's and the United States'.

Payroll Employment since March 2001, Nonmanufacturing

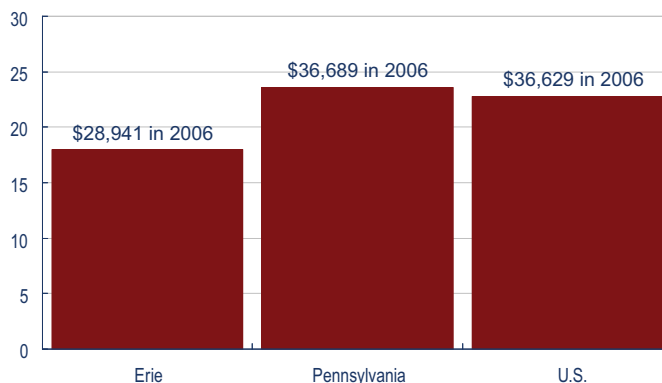
Index, March 2001 = 100



Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Per Capita Income Growth since 2000

Percent



Source: Bureau of Economic Analysis.

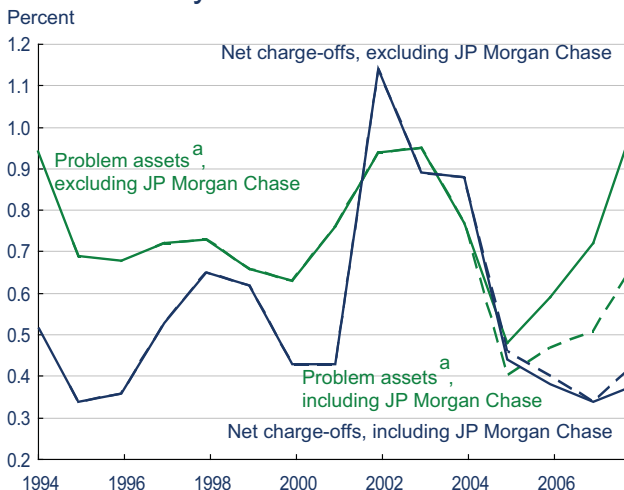
Banking and Financial Institutions

Fourth District Community Banks

01.22.08

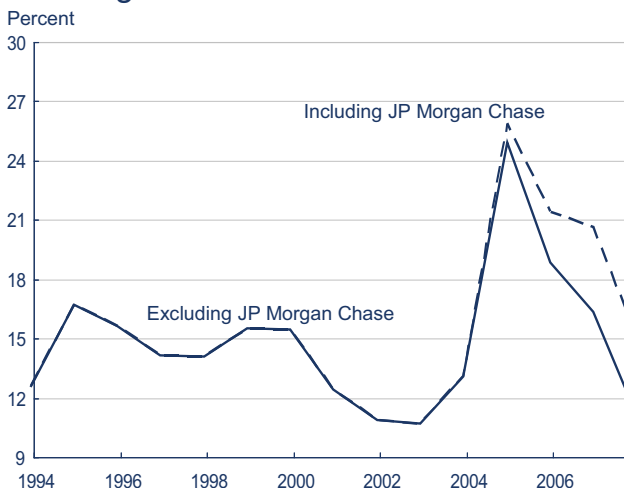
by Joe Haubrich and Saeed Zaman

Asset Quality



Notes: Data are through 2007:IIIQ only. Data for 2007 are annualized.
 a. Problem assets are shown as a percent of total assets, net charge-offs as a percent of total loans.
 Source: Authors' calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, third quarter 2007.

Coverage Ratio



Notes: Data are through 2007:IIIQ only. Data for 2007 are annualized. Efficiency is operating expenses as a percent of net interest income plus non-interest income.
 Source: Authors' calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, third quarter 2007.

Overall, financial indicators point to some weakening of Fourth District banks' balance sheets. Asset quality, as measured by net charge-offs (losses realized on loans and leases currently in default minus recoveries on previously charged-off loans and leases) deteriorated in the third quarter of 2007. Net charge-offs increased to 0.37 percent of total loans (from 0.34 percent at the end of 2006). Problem assets (nonperforming loans and repossessed real estate) as a share of total assets rose to 0.95 percent, from 0.72 percent at the end of 2006. The increase in problem assets may translate into higher charge-offs in the future if borrowers cannot catch up with their late payments. At the national level, the picture is similar; both asset quality ratios have deteriorated. Net charge-offs and nonperforming loans rose to 0.43 percent of loans (up from 0.33 percent at the end of 2006) and 0.56 percent of assets (up from 0.45 percent at the end of 2006).

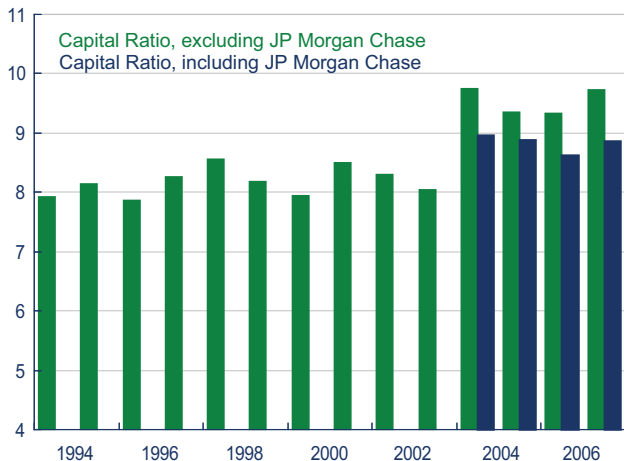
Fourth District banks held \$12.45 in equity capital and loan loss reserves for every dollar of problem loans, which is above the recent coverage ratio low of 10.75 at the end of 2002, but well below the record high of 24.97 at the end of 2004.

Equity capital as a percent of Fourth District banks' assets (the leverage ratio) rose to 9.73 percent (from 9.34 percent at the end of 2006).

The percent of unprofitable institutions in the Fourth District rose to 8.66 percent for the third quarter of 2007 (from 6.36 percent at the end of 2006). Unprofitable banks' asset size also rose, as the share of District banks' assets accounted for by unprofitable banks increased from 0.23 percent to 0.45 percent. Industrywide, the percent of unprofitable institutions rose from 7.7 percent to 9.67 percent at the end of the third quarter of 2007. The asset size of unprofitable banks also went up from 0.59 percent at the end of 2006 to 1.93 percent at the end of the third quarter of 2007. So, the industrywide increase in the number of unprofitable

Core Capital (Leverage) Ratio

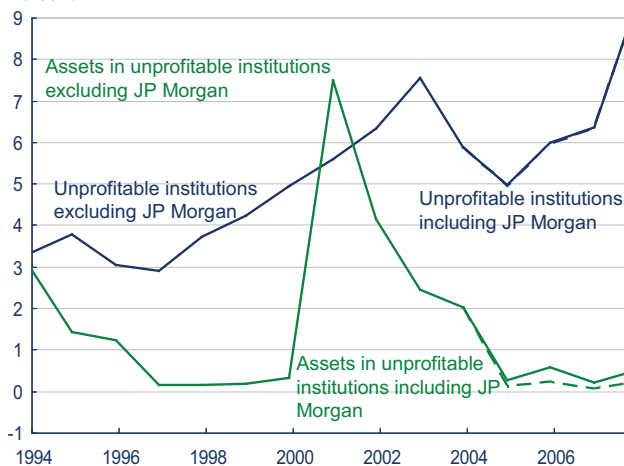
Percent



Notes: Data are through 2007:IIIQ only. Data for 2007 are annualized. Efficiency is operating expenses as a percent of net interest income plus non-interest income. Source: Authors' calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, third quarter 2007.

Unprofitable Institutions

Percent



Notes: Data are through 2007:IIIQ only. Data for 2007 are annualized. Efficiency is operating expenses as a percent of net interest income plus non-interest income. Source: Authors' calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, third quarter 2007.

banks was restricted not only to smaller financial institutions but broad based.

Net income posted by FDIC-insured commercial banks headquartered in the Fourth Federal Reserve District for the first three quarters of 2007 was \$7.6 billion —\$10.14 billion on an annual basis. (JP Morgan Chase, chartered in Columbus, is not included in this discussion because its assets are mostly outside the District and its size—roughly \$1 trillion—dwarfs other District institutions.) The U.S. banking industry as a whole posted earnings of \$107.09 billion for the same period—\$142.78 billion on an annual basis.

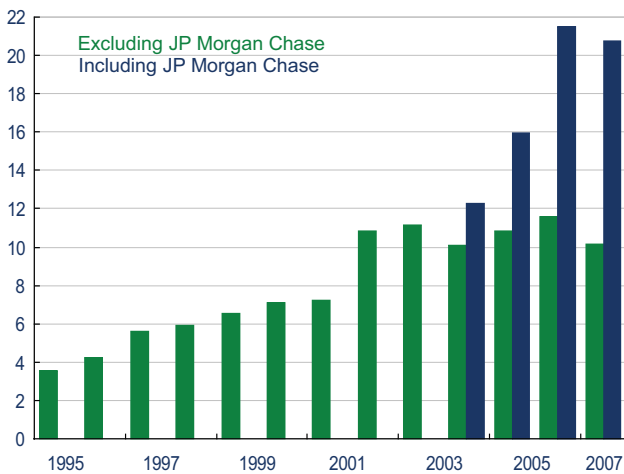
Fourth District banks' net interest margins (core profitability computed as interest income minus interest expenses divided by average earning assets) fell to 2.96 percent of total income at the end of the third quarter of 2007, but it is still higher than the U.S. average of 2.87 percent. Non-interest income relative to total income slipped for both Fourth District banks and the national average, to 28.51 percent for District banks, and to 28.42 percent for the nation.

Fourth District banks' efficiency (operating expenses as a percent of total income) continued to worsen in the third quarter of 2007, deteriorating to 56.69 percent from the 52.64 percent record set in 2002. (Lower numbers correspond to greater efficiency.) Banks outside the Fourth District also deteriorated, as the national average climbed to 55.05 percent, from 54.64 percent at the end of 2006.

At the end of the third quarter of 2007, District banks posted a 1.20 percent return on assets (down from 1.41 percent at the end of 2006) and a 12.37 percent return on equity (down from 15.05 percent at the end of 2006). The District's decline resonated with the downward trend nationwide: Return on assets nationwide was down to 1.01 percent (from 1.14 percent at the end of 2006), and return on equity was down to 10.92 percent (from 12.23 percent at the end of 2006).

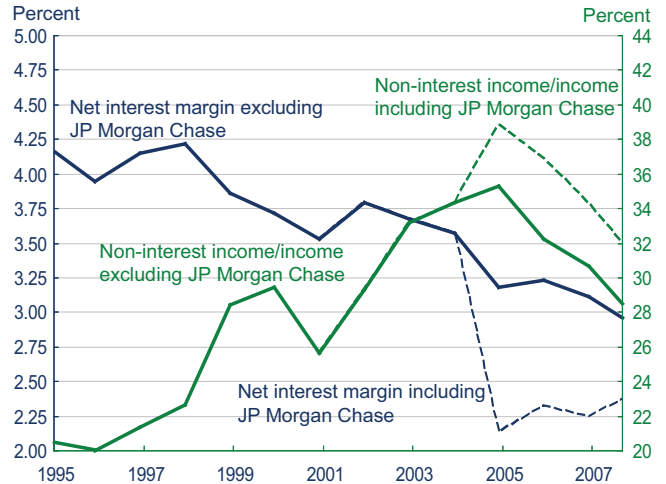
Annual Net Income

Billions of dollars



Note: Data are through 2007:IIIQ only. Data for 2007 are annualized.
Source: Authors' calculation from Federal Financial Institutions Quarterly Examination Council, Banking Reports of Condition and Income, third quarter 2007.

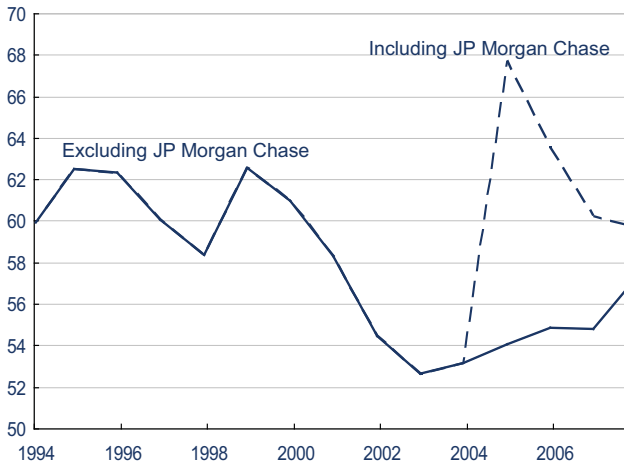
Income Ratios



Note: Data are through 2007:IIIQ only. Data for 2007 are annualized.
Source: Authors' calculation from Federal Financial Institutions Examination Council, Quarterly Banking Reports of Condition and Income, third quarter 2007.

Efficiency Ratio

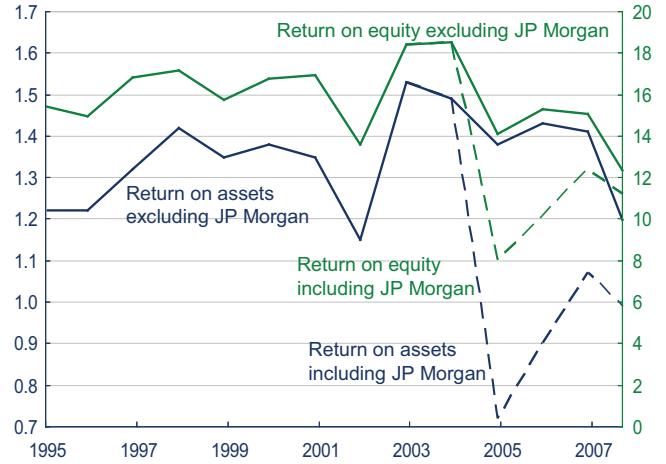
Percent



Notes: Data are through 2007:IIIQ only. Data for 2007 are annualized. Efficiency is operating expenses as a percent of net interest income plus non-interest income.
Source: Authors' calculation from Federal Financial Institutions Examination Council, Quarterly Banking Reports of Condition and Income, third quarter 2007.

Earnings

Percent



Note: Data are through 2007:IIIQ only. Data for 2007 annualized.
Source: Authors' calculation from Federal Financial Institutions Examination Council, Quarterly Banking Reports of Condition and Income, third quarter 2007.

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ISSN 0748-2922

