



PITTSBURGH ECONOMIC QUARTERLY

University Center for Social and Urban Research



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Recent Trends in Manufacturing Employment

■ *By Christopher Briem*

The current recession represents a good opportunity to review the performance of manufacturing today in the Pittsburgh region and the changes that occurred in the sector over the previous decades. Manufacturing is typically vulnerable in recessions, and parts of the sector, such as automobile manufacturing, are especially hard hit. The current recession reveals different impacts across the manufacturing sector. Overall, the unemployment rate in the Pittsburgh region hit 7.3 percent in May, with even greater employment losses among manufacturers.

Though employment in the Pittsburgh region was once defined by its high concentration of manufacturing employment compared to the nation, long-term trends have increased the diversification of employment in the Pittsburgh regional economy. Manufacturing employment's share of total employment has declined steadily over the recent decades. While the sector remains a major part of the region's employment base, the concentration of manufacturing jobs in the Pittsburgh region today is nearly identical to its share in national employment.

Manufacturing employment in the region began a long-term structural decline after World War II. The downward trend sharpened in the late 1970s as steel collapsed. Total manufacturing employment in the Pittsburgh region dropped from more than 287,000 in 1979 to 183,000 in 1984 and declined even further to 154,000 in 1987.

Longer-term comparisons of employment trends in sectors are somewhat difficult, owing to the redefinition of industries and sectors in the early 2000s. Figure 1 shows manufacturing employment for the seven-county Pittsburgh Metropolitan Statistical Area (MSA), referred to here as the Pittsburgh region. For the earliest years shown, 1969 to 2000, the Standard Industrial Classification (SIC) system categorized data. Afterward, from 2001 forward, the newer North American Industrial Classification System (NAICS) was adopted, as shown for the years 2001 through 2006. A comparison across the two time series reveals a small discontinuity. Nonetheless, the long-term downward trend in manufacturing employment in the region is clearly evident.

■ ■ ■ *continued on page 2*

Foreclosures and their Impact in the Pittsburgh Regional Economy

■ *By Bob Gradeck*

The foreclosure crisis continues across the U.S. In 2008, the country experienced 2.3 million foreclosure filings, an 81 percent increase from 2007. In the first quarter of 2009, the foreclosure rate increased by 24 percent over the same period in 2008. Foreclosure rates in Pennsylvania were up 127 percent in 2008 from 2007. But with a foreclosure rate of 0.68 percent, Pennsylvania ranked 33rd among states with a foreclosure rate about one-third the national average, according to RealtyTrac.

Similar to Pennsylvania, the Pittsburgh region had comparatively low rates of foreclosure filings compared to other large metropolitan areas, ranking 81st lowest of the 100 largest metropolitan regions in the country.

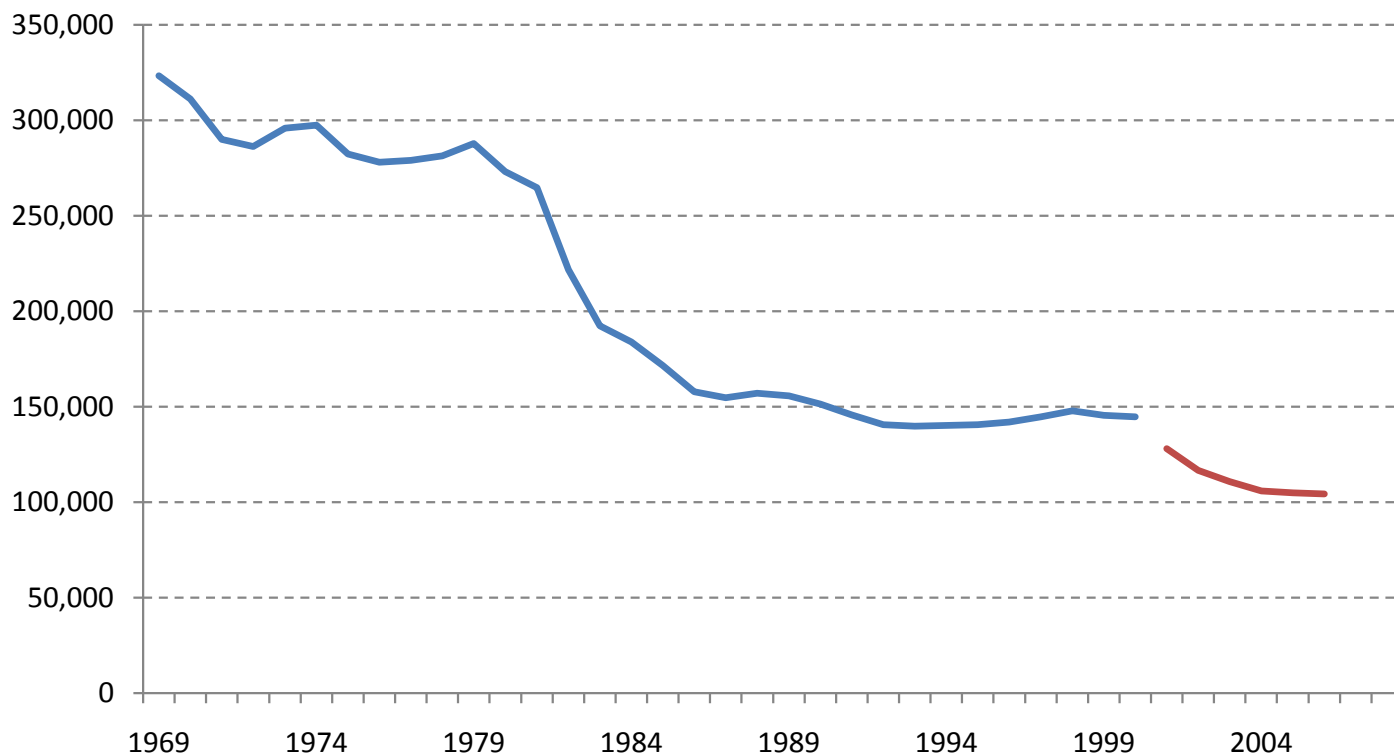
Despite this welcome news, the destabilizing impacts of foreclosures are threatening housing markets in a handful of communities. Many urban areas in the region have done worse than the state average, including Allegheny

County. When foreclosures lead to abandoned properties, the demand for housing falls, property values decline, and governments face increased financial and service provision burdens.

Using data from the Pittsburgh Neighborhood and Community Information System (PNCIS), foreclosure filings in recent years can be mapped for Allegheny County. The data reveal foreclosures are concentrated in a handful of Pittsburgh neighborhoods, inner-ring suburbs, and industrial riverfront communities. Housing markets in many of these areas have struggled in recent years and now face more challenges as a result of the foreclosure crisis. Foreclosures can lead to even more property problems, including increases in vacancy and abandonment. These properties can also become targets for vandalism and other criminal behavior and cause potential homebuyers and current residents to

■ ■ ■ *continued on page 6*

Figure 1: Pittsburgh MSA Manufacturing Employment 1969–2006



Source: Regional Economic Information System (REIS) 1969–2006

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More recently, the downward trend in manufacturing employment waned. Manufacturing employment stabilized in the late 1980s with approximately 150,000 workers, which continued through most of the 1990s. Thereafter, manufacturing employment in the region began to decline steadily again, falling to 96,700 workers by late 2008 (see Figure 2). Today manufacturing represents 8.4 percent of the region’s employment.

Why was employment in manufacturing relatively stable in the 1990s? The stability of the sector owes to a number of factors, including growth and change within specific parts of the sector (see Table 1).

Between 1990 and 2000, several subsectors of manufacturing increased employment in the region or remained flat, including computer and electronic devices, plastics and rubber, machinery, and miscellaneous manufacturing. However, since 2000, manufacturing employment in most subsectors has declined, including those expanding in the previous decade. These relative changes are shown in Figure 3, which is scaled to show growth and

decline in employment from 1990 forward, not absolute employment levels. The data reflect industry classifications used in the Pittsburgh REMI model here at the University Center for Social and Urban Research.

Over the last decade, the change in employment in computer and electronics manufacturing stands out. And most of the change in that sector results from the production of one facility operated by the Sony Electronics Corporation.

In 1990 Sony took over an automobile assembly plant in Westmoreland County that had been developed and later vacated by Volkswagen, which produced automobiles on the site between 1980 and 1988. This same site had been selected in the 1960s as the location of a new Chrysler auto manufacturing plant that was cancelled before construction was completed. Sony primarily produced televisions at its Westmoreland county operation, along with related glass operations. While Sony rapidly expanded employment at the site in the 1990s to a peak over 3,000 workers, employment declined after 2000, and the company announced in December 2008 it would close the plant.

Despite declining by more than one-third in employment from 2000 to 2006, total employment in the computer and electronics subsector remains higher in 2006 than it was in 1990. This is the only manufacturing subsector to have registered such a gain in employment between those years. All other large manufacturing sub-sectors saw a decline over that time with food production (down 1.5 percent), electrical equipment (down 0.2 percent) and fabricated metal employment (down 6.7 percent) the most stable. The largest declines since 1990 include chemical industries (down 44 percent since 1990), nonmetallic mineral manufacturing (down 41 percent) and primary metals employment (down 40 percent).

We can examine the changes in the region’s manufacturing employment by comparing industry location quotients. Location quotients (LQ) are a standard metric that measures the concentration of a particular industry or occupation in a region compared to a larger entity, typically the nation. When an LQ=1, the region’s share of employment in a given

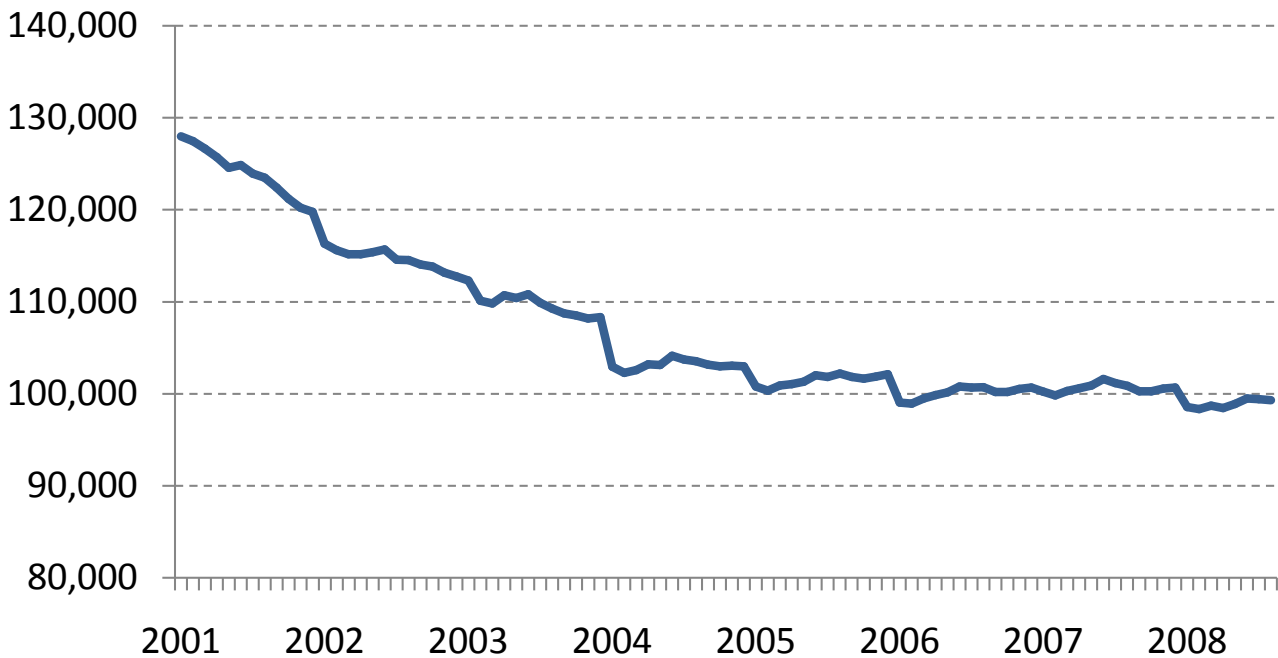
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**Table 1: Employment Change—Largest Manufacturing Subsectors
10 County Southwestern Pennsylvania**

| | 1990 | 1995 | 2000 | 2006 | 1990–2000 | 2000–2006 |
|--|--------|--------|--------|--------|-----------|-----------|
| Primary metal | 28,313 | 23,859 | 24,226 | 17,102 | -14.4% | -29.4% |
| Fabricated metal | 19,538 | 18,316 | 19,520 | 18,207 | -0.1% | -6.7% |
| Machinery | 16,684 | 17,102 | 16,015 | 13,068 | -4.0% | -18.4% |
| Nonmetallic mineral | 12,571 | 10,803 | 10,905 | 7,378 | -13.3% | -32.3% |
| Computer and electronics | 7,692 | 9,302 | 12,851 | 8,396 | 67.1% | -34.7% |
| Chemical | 11,213 | 9,559 | 9,888 | 6,304 | -11.8% | -36.2% |
| Miscellaneous | 6,244 | 6,400 | 7,612 | 6,575 | 21.9% | -13.6% |
| Plastics and rubber | 6,259 | 7,238 | 7,415 | 6,001 | 18.5% | -19.1% |
| Printing and related support activities | 6,037 | 5,937 | 6,019 | 4,887 | -0.3% | -18.8% |
| Food | 5,457 | 5,229 | 4,846 | 4,775 | -11.2% | -1.5% |
| Electrical equipment and appliances | 5,629 | 4,801 | 4,736 | 4,725 | -15.9% | -0.2% |

Source: Pittsburgh REMI Model

Figure 2: Pittsburgh MSA Manufacturing Employment 1990–2008 (through September 2008)



Source: Bureau of Labor Statistics – CEW(ES202) data

■ ■ continued from page 3

industry is identical to the nation. When LQs are greater than one for a particular industry or subsector, it is presumed that the region is more concentrated in that activity than the nation. And, correspondingly, LQs less than one imply less specialization in that industry in the region than for the reference region.

We can examine specialization in manufacturing by comparing the LQs for manufacturing industries in the 30 largest metropolitan areas in 2007, before the onset of the current recession (see Table 2).

Overall the LQ for all manufacturing industries in the Pittsburgh region is computed to be 1.0 in 2007, thus virtually identical for the U.S. Among a list of the 30 largest metropolitan

areas in the nation, 27 of which have reported manufacturing employment in 2007, Pittsburgh ranks 10th. The highest LQ for manufacturing employment continue to be traditional “Rust Belt” regions Detroit and Cleveland which both had manufacturing LQs greater than 1.5 in 2007. The lowest manufacturing LQ was Washington, D.C., which is computed to have a manufacturing employment LQ of 0.2.

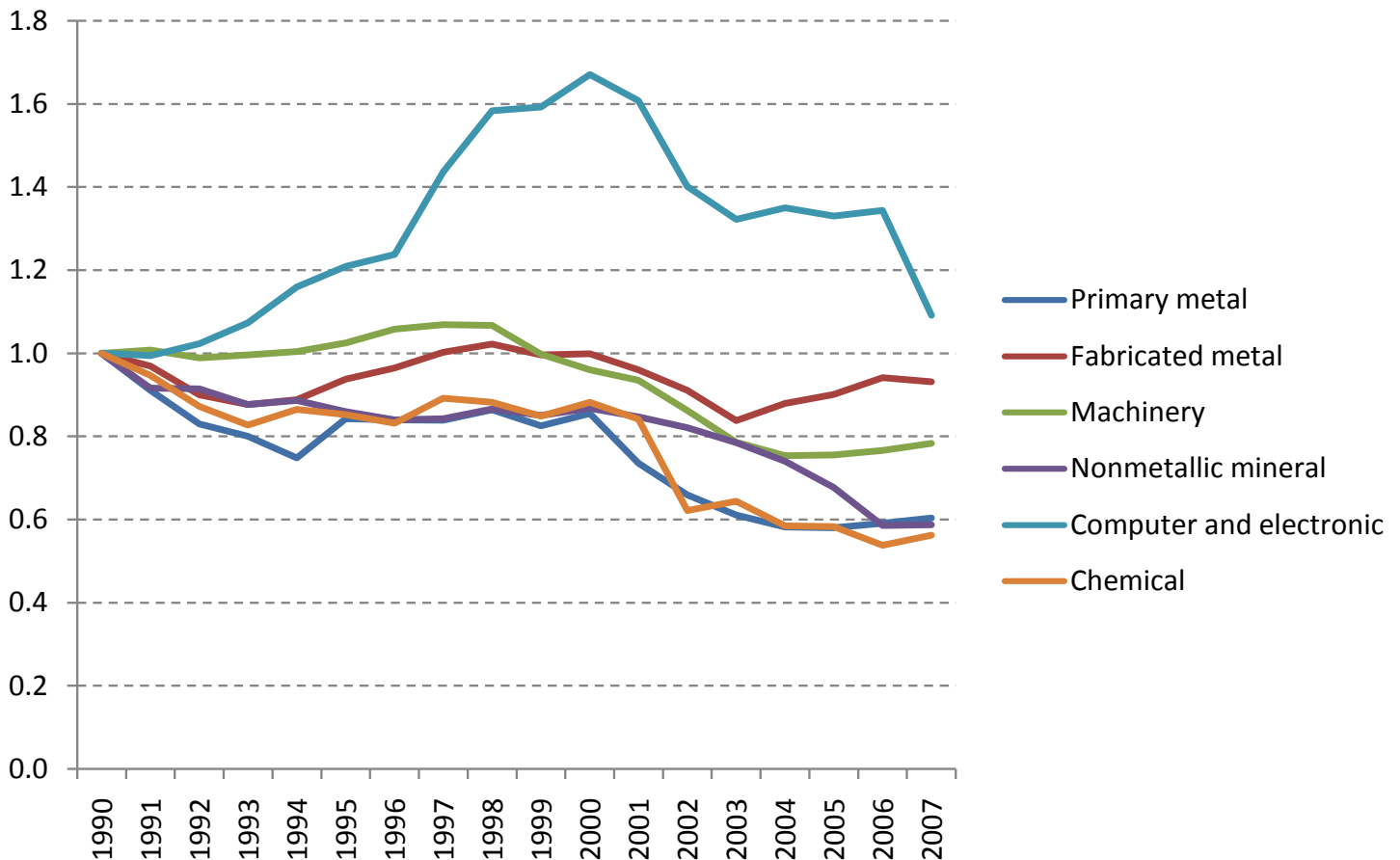
The most recent trends see renewed decline across most manufacturing sectors in Pittsburgh. How much of the more recent job loss represents a cyclical downturn that will revive when the national economy emerges from the current recession and how much of it is more structural job loss remains to be seen. The Pittsburgh region retains a concentration

of employment related to the steel industry, both in manufacturing and service and support areas for steel firms round the world. The global steel industry is currently experiencing an unprecedented slowdown resulting from the rare simultaneous recessions across many regions of the world. What rebounds and where will certainly contribute to regional growth in the recovery.

Notes:

1. All data reflect the current MSA definition: Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland.
2. Data for 1969–2000 based on SIC-based industry classification. Data for 2001–2006 are for NAICS-based industry classification.

**Figure 3: Relative Change in Manufacturing Employment 1990–2007
Largest Manufacturing Subsectors in the Pittsburgh Region (1990 = 1.0)**



Source: Bureau of Labor Statistics – CEW(ES202) data

**Table 2: Manufacturing Industries Location Quotient
30 Largest Metropolitan Statistical Areas¹, 2007**

| MSA ² | Employment (2007) | | % Manufacturing Employment | | Location |
|---|-------------------|------------------|----------------------------|-------------|------------|
| | Manufacturing | Total | Pittsburgh | US | Quotient |
| Detroit-Warren-Livonia, MI | 256,210 | 1,871,278 | 13.7% | 9.0% | 1.5 |
| Cleveland-Elyria-Mentor, OH | 142,460 | 1,043,779 | 13.6% | 9.0% | 1.5 |
| Portland-Vancouver-Beaverton, OR-WA | 125,686 | 1,026,856 | 12.2% | 9.0% | 1.4 |
| Minneapolis-St. Paul-Bloomington, MN-WI | 201,393 | 1,746,045 | 11.5% | 9.0% | 1.3 |
| Chicago-Naperville-Joliet, IL-IN-WI | 480,449 | 4,364,633 | 11.0% | 9.0% | 1.2 |
| Seattle-Tacoma-Bellevue, WA | 185,471 | 1,700,868 | 10.9% | 9.0% | 1.2 |
| Los Angeles-Long Beach-Santa Ana, CA | 622,501 | 5,710,526 | 10.9% | 9.0% | 1.2 |
| Dallas-Fort Worth-Arlington, TX | 297,835 | 2,882,016 | 10.3% | 9.0% | 1.2 |
| Houston-Sugar Land-Baytown, TX | 232,857 | 2,493,764 | 9.3% | 9.0% | 1.0 |
| Pittsburgh, PA | 100,605 | 1,095,914 | 9.2% | 9.0% | 1.0 |
| Riverside-San Bernardino-Ontario, CA | 116,861 | 1,299,058 | 9.0% | 9.0% | 1.0 |
| Boston-Cambridge-Quincy, MA-NH | 204,099 | 2,384,292 | 8.6% | 9.0% | 1.0 |
| Kansas City, MO-KS | 82,315 | 981,305 | 8.4% | 9.0% | 0.9 |
| San Diego-Carlsbad-San Marcos, CA | 102,644 | 1,321,214 | 7.8% | 9.0% | 0.9 |
| Atlanta-Sandy Springs-Marietta, GA | 174,723 | 2,336,980 | 7.5% | 9.0% | 0.8 |
| Phoenix-Mesa-Scottsdale, AZ | 137,044 | 1,875,320 | 7.3% | 9.0% | 0.8 |
| San Francisco-Oakland-Fremont, CA | 137,822 | 2,037,305 | 6.8% | 9.0% | 0.8 |
| Tampa-St. Petersburg-Clearwater, FL | 72,847 | 1,221,678 | 6.0% | 9.0% | 0.7 |
| San Antonio, TX | 48,558 | 819,962 | 5.9% | 9.0% | 0.7 |
| Denver-Aurora, CO | 71,453 | 1,225,517 | 5.8% | 9.0% | 0.7 |
| Baltimore-Towson, MD | 70,579 | 1,256,256 | 5.6% | 9.0% | 0.6 |
| Sacramento-Arden-Arcade-Roseville, CA | 39,913 | 933,363 | 4.3% | 9.0% | 0.5 |
| Orlando-Kissimmee, FL | 42,516 | 1,025,723 | 4.1% | 9.0% | 0.5 |
| Miami-Fort Lauderdale-Pompano Beach, FL | 96,384 | 2,326,842 | 4.1% | 9.0% | 0.5 |
| Las Vegas-Paradise, NV | 26,682 | 922,461 | 2.9% | 9.0% | 0.3 |
| Washington-Arlington-Alexandria, DC-VA-MD-WV | 63,581 | 2,891,469 | 2.2% | 9.0% | 0.2 |

¹Source: Bureau of Labor Statistics—CEW (ES202) data

²Cincinnati, New York, Philadelphia and St. Louis manufacturing employment not disclosed for 2007.

■ ■ ■ continued from page 1

lose confidence in the strength of their current or potential investment.

Additionally, recent research by the Federal Reserve Bank of Cleveland found that communities in Allegheny County with high rates of foreclosure also were more likely to have subprime lending or high-cost loans, lower socioeconomic status, and larger proportions of African American residents.

Capacity to deal with the impacts of foreclosure is limited in many affected communities. Recent support from programs such as the Neighborhood Stabilization Program of the federal government offers assistance, but challenges remain in these communities.

Many national researchers suggest that communities should design the response to foreclosures within the context of local housing market conditions. These communi-

ties should then use targeted strategies to reduce the negative externalities of vacant and abandoned properties. Several broad types of strategies are now being implemented to help communities recover from the impacts of foreclosure. These include:

Foreclosure prevention

Foreclosure prevention efforts are designed to reduce the number of foreclosures through a variety of efforts. These include: targeted outreach and counseling for at-risk borrowers, structured mediation in the foreclosure process, support for loan modifications, short-term loans (Pennsylvania’s HEMAP program, for example), and protection of renters in a foreclosed property. Some financial institutions are also being encouraged to allow homes to remain occupied for a period of time following a foreclosure.

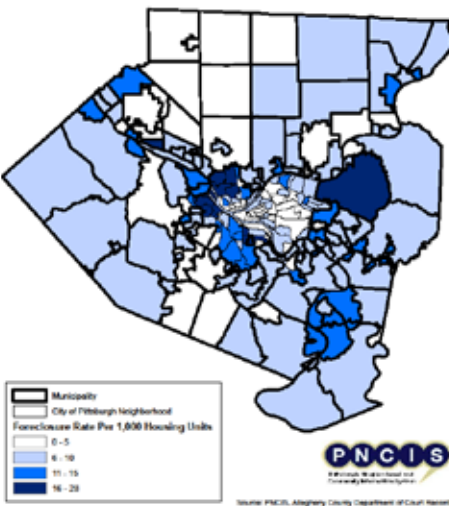
Vacant property maintenance

After a foreclosed property becomes vacant, a variety of approaches is being used to limit the negative impacts of vacancy on a community. In some communities with stronger market opportunities (Shaker Heights, Ohio, for example), marketing and efforts to enhance curb appeal can supplement the impact of federal first-time homebuyer tax credits. In places with more-challenging housing market conditions, targeted code enforcement, nuisance abatement programs, demolitions, and vacant property registries are being used to stabilize communities.

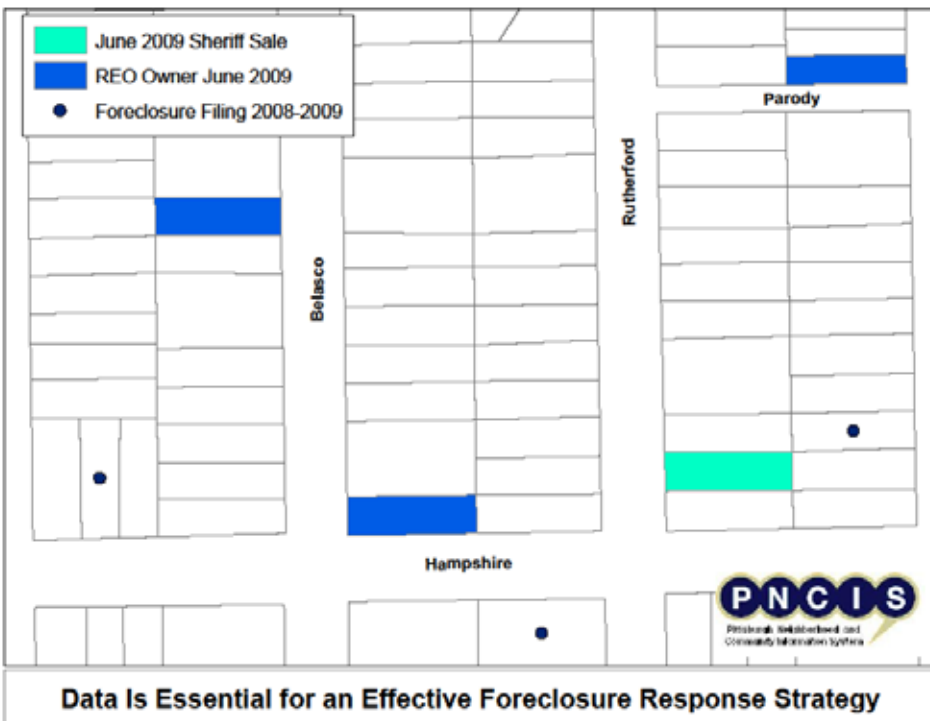
Responsible property recycling

Communities have a stake in how properties that have gone through a foreclosure find a new future with a responsible owner. Several communities are building relationships with banks to encourage them to transfer foreclosed properties to responsible owners or convey them in a bulk transfer to a land bank. Some financial institutions are also supporting the rehabilitation of foreclosed properties through involvement in tax credit redevelopment projects. Even if financial institutions are willing, communities must have the capacity and resources to effectively hold and manage the disposition of properties acquired from bank owners.

Allegheny County Residential Foreclosure Rate by Municipality and Pittsburgh Neighborhood Annual Average, 2006-2008



This article draws information from the Pittsburgh Neighborhood and Community Information System (PNCIS). PNCIS, housed at UCSUR, brings together more than 60 neighborhood and property-level indicators from a variety of administrative sources to support neighborhood revitalization and community improvement. UCUSR operates PNCIS in agreement with the Pittsburgh Partnership for Neighborhood Development (PPND), a leader in community development in the city of Pittsburgh. PPND was instrumental in securing the financial support to build PNCIS and expand it and develop it over the years. See *Pittsburgh Economic Quarterly*, March 2008 and March 2007.



Data Is Essential for an Effective Foreclosure Response Strategy

Help families recover from foreclosure

One final category of response is directed at the people directly impacted by a foreclosure. Credit counselors, community-based organizations, and social service agencies can help families recover from a foreclosure by providing them with relocation assistance, social services, and by help in rebuilding their credit.

A critical component of any successful foreclosure prevention and response strategy involves the use of quality data and timely research. Through the PNCIS, UCSUR will continue to collect data on housing market and community conditions that can be used to help communities cope with the foreclosure crisis.

New features are being made available to help communities develop strategies in response to the foreclosure partners. PNCIS is a partner in the National Neighborhood Indicators Partnership (NNIP), housed at the Urban Institute in Washington, D.C. Along with the Local Initiatives Support Corporation, they have worked to develop an online resource, Foreclosure-response.org, which offers information, policy guides, best practices, and case studies of how communities have responded in the U.S. In coming issues of *PEQ*, we will continue our analysis on the regional impacts of the foreclosure crisis.

Additional information is available at <http://www.foreclosure-response.org/>.

Research from the Federal Reserve Bank of Cleveland is available at www.clevelandfed.org/Our_Region/Community_Development/Publications/Behind_the_Numbers/2008/1108/Allegheny_County_Foreclosure/index.cfm.

UCSUR Names Recipients of Ninth Annual Steven D. Manners Awards

Each year, the University of Pittsburgh University Center for Social and Urban Research (UCSUR) awards the Steven D. Manners Faculty Development Awards to promising research and infrastructure projects on campus. These awards honor the memory of Steve Manners, a sociologist who began working at the Center 1974 and served as its Assistant Director from 1989 until his death in September 2000. His research and service to the Center and the University community were dedicated to improving social conditions in the urban environment.

UCSUR made the first Steve Manners Awards in 2001 and makes awards in two categories: (1) Research Development Grants to support pilot research in the social, behavioral, and policy sciences; and (2) Infrastructure Development Awards aimed at enhancing faculty capabilities to carry out interdisciplinary research in the social, behavioral, and policy sciences.

The following received the 2009 Manners Awards from UCSUR:

Irinia Murtazashvili, PhD, associate professor of economics, for "Heterogeneity of Family Motives: Altruism vs. Exchange in Intergenerational Transfers."

The goal of this project is to expand society's understanding of motives for monetary transfers between generations. The research explores two rival theories of transfers between families and generations that have realized mixed results in previous empirical studies, altruism versus exchange models. The research here argues that transfers between generations in extended families are family-specific, and hence the results of testing the altruism versus exchange model may be misleading. Using recently developed econometric methods, the research will focus on the family-specific motives for transfers in the U.S. Additional work will also be conducted to perform a cross-country comparison in order to differentiate population groups and circumstances under which any particular motive dominates. Dr. Murtazashvili will conduct this work with Olena Nizalova, assistant professor at the Kyiv School of Economics, Kyiv Economics Institute, in Kyiv, Ukraine.

Brian A. Primack, MD, EdM, MS, assistant professor of medicine and pediatrics, for "Waterpipe Tobacco Smoking at the University of Pittsburgh: A Longitudinal Study."

Although the prevalence of cigarette smoking in the U.S. is declining, tobacco smoking using a waterpipe, or hookah, is an emerging trend that poses a great threat to the public health. Waterpipe tobacco smoking has been associated with substantial harm and addictiveness. In previous research, Dr. Primack and his colleagues found that students at the University of Pittsburgh smoked tobacco via waterpipe (40.5 percent) at a higher level than had smoked a cigarette (39.6 percent). Although this work has been highly valuable, it also has limitations including: (1) a weak response rate of 18.6 percent; (2) few items, since they were added to a larger study that was already long; (3) lack of focus on first-year students, who seem to be most substantially impacted by waterpipe tobacco smoking; and (4) a cross-sectional design. The current work will address each of these limitations. This timely assessment will enable the researchers to (1) determine accurately the prevalence and uptake of waterpipe tobacco smoking among first-year students at the University of Pittsburgh; (2) test a theory-based mediational model relating waterpipe tobacco smoking to demographic, personal, and environmental predictors; and (3) gather pilot longitudinal data that will support a subsequent major grant application to the National Cancer Institute. Dr. Primack will conduct this work with Dr. Michael J. Fine, professor of medicine at the University of Pittsburgh's School of Medicine and Director of the Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System.

For more information about the Steven D. Manners Faculty Development Awards, contact UCSUR at 412-624-5442.



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