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Special points of interest:

- Local productivity loss is a better measure of economic impact than the value of lost assets or lost sales.
- Recovery efforts may actually stimulate the local economy and partially offset some of the losses.
- Unfortunately, the flood-related gains are unlikely to accrue to those most affected by the disaster.

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Iowa State University Extension

How Will the Floods of 2008 Affect Local Economies in Iowa?

Images from the Floods of 2008 vividly portray the extent of physical damage to homes, agricultural crops, commercial property, and public infrastructure.

Less clear are the longer-term economic impacts of this event on Iowa's communities. How will the flood-related losses work their way through our local economies, and who will be most affected?

There is a growing demand to place a dollar value on the losses even as damage reports continue to filter in. After the floodwaters recede, a swirl of numbers will likely take their place.

- *Thousands of households displaced by flooding...*
- *Millions of cropland acres damaged or destroyed...*
- *Billions of dollars in damage to personal and commercial property.*

Which of these statements describes the economic impact of the Floods of 2008? The answer is none, at least not yet, and not in terms of traditional regional economic impact assessment.

Evaluating the impact of a natural disaster on a local or state economy requires different words and methods than might be used by homeowners, local merchants, insurance

claims adjusters, or members of the news media in describing the same event.

This brief guide addresses issues and considerations in measuring the economic impact of the floods. It is intended to provide a framework for discussion as communities struggle to comprehend this event in economic terms.



Image Source:
Iowa Public Television

Where Do The Economic Losses Accumulate?

An important first step in assessing local and statewide economic impacts is identifying how and where flood-related losses are likely to accumulate.

To Households. Urban flooding impacts households primarily. The losses to households include personal items, household goods, vehicles, homes, and in some cases, lost wages or even lost jobs.

Whether renters or owners, a very small fraction of households have flood insurance. Homeowners in active flood plains may have obtained flood insurance as a part of home financing, but the floods in Cedar Rapids, for example, were beyond any historic measure.

To Farmers. Currently, according to the USDA, nine percent of corn acres have been flooded, and eight percent of soybeans. If we assume that half of that land is still able to be planted or replanted into soybeans, then the change in anticipated gross sales for Iowa's crop farmers might be \$1.2 to \$1.5 billion less than it otherwise could have been were this a normal growing year. For those replanting, there will be increased costs.

Ninety percent of Iowa farmers have crop insurance, but not all farmers have flood insurance. Most of the damaged farmland, however, was not in an active flood plain, so we have a ways to go before we know the ex-

tent of actual flood damage versus other crop damage.

As corn and soybean prices have shot up strongly on the heels of the flood there will be strongly increased costs to animal feeders in Iowa and other places. This will stress those operations and further reduce already strained margins.

To Businesses. Local businesses may experience lost inventory, lost sales, and lost productivity and profits. Even firms not directly affected by flooding might lose sales if they were suppliers of goods and services to affected businesses or households.

As with households, many busi-

In 2007, there were 10,649 National Flood Insurance Program policies in force in Iowa.

Source: Federal Emergency Management Administration



Image Source:
USDA-NRCS

In the 1993 floods, real nonfarm GDP in Iowa actually posted a 2.7 percent gain.

Source: U.S. Bureau of Economic Analysis

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nesses are not insured for losses due to flooding. We suspect that there will be many business failures and job losses, especially since we are already experiencing a national economic slow-down.

To Communities. The generalized social costs of the flood are substantial. All aspects of public service delivery are affected. In some communities, waste water and fresh water facilities are compromised and must be restored. Cities will need to repair roads and bridges, public lighting, public parks, and public buildings.

Cities will also be the primary source of clean-up activities. They will need to create additional solid and hazardous waste disposal facilities.

The community fiscal effects of infrastructure losses will depend primarily on the amount of federal and state disaster assistance they obtain and their abilities to either borrow funds or re-direct spending in support of flood recovery.

Local property tax revenues may decline if properties remain vacant or property values decline. Local option sales tax revenues may drop, depending

on the types of retail establishments that were lost. Too, in many smaller towns, we can expect shifts in sales to regional trade centers, especially for household refurbishing expenditures.

Intangible community assets may also be lost. These include the breakup of established neighborhoods and the loss of iconic stores or other institutions that provided local color and character. Not to be forgotten, floods destroy or mar public spaces. Most greenways, parks, and community recreation facilities are located in flood plains.

Do These Losses Translate Into Economic Impacts?

The scope of losses sustained by households, farmers, businesses, and communities suggests dire economic consequences. However, not all of the losses translate into economic impacts on the overall local or state economy.

Economies are measured by the annual productivity of business and the distribution of business proceeds. When an economy is “impacted”, we want to know the degree to which changes in local industrial activity affect payments made to workers, owners, and investors. Ultimately, all economic activity finds its way into personal income, so loss in personal income is an alternative measure of economic impacts.

Many people are prone to use other types of losses to describe economic impacts. Some are more appropriate for determining final economic impacts on a regional economy.

Some of the more frequently-cited measures are discussed below.

Assets. The economic impacts of lost assets are not measured by their purchase price, their assessed value, or their replacement cost. Instead, we measure the value of an asset by its annual contribution to area productivity — in other words, its annual “use” value. For example, the annual use value of housing stock translates roughly into an imputed rental value of the homes.

The destruction of personal, business, and public assets does indeed reduce regional wealth and well-being. These kinds of losses are tangible and important, but should not be confused with changes in overall economic activity attributable to a natural disaster. Over time these losses are offset as allowable offsets to state and federal tax liability, to the extent that those suffering the

losses are able to itemize their taxes.

Sales. Although businesses may “lose” sales due to flooding, lost sales are not an appropriate economic impact measure. The dollar value of lost sales overstates impacts because it fails to include offsets for any associated costs that were not incurred. From an economic impact perspective, net operating losses provide a better measure.

Net Operating Losses. Local businesses may experience operating losses either as a direct or indirect result of the flooding. Operating losses may be caused by a variety of factors including reduced revenues, inventory losses, production delays due to damaged plant and equipment, transportation or logistics problems, lower employee productivity due to absence or stress, or other disruptions to normal business operation. Whatever

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the cause, the operating losses reduce regional income.

Wages. Some employees may be unable to work, either because they must attend to their household recovery efforts or their employers have shut down. Their lost wages represent a direct reduction to local household income, which has multiplier effects upon the local economy. These losses may be mitigated strongly by disaster assistance, cash grants, and other forms of social assistance.

Crop Prices. The gainers and

losers in the farm sector are difficult to measure. Higher prices due to flooding will yield profit windfalls to the many farmers who will likely produce reasonably good crops. On the flip side, higher prices will lower the margins for animal feeders. Insurance and other forms of assistance will mitigate some of the losses.

Public Sector Infrastructure Costs. Some of the most expensive flood recovery activity will occur in the public sector. Those costs will be borne in the main by federal aid and will be in the hundreds of millions of

dollars. But local and state governments will have to increase own source revenues to cover portions of the costs or reduce services in other areas. Either response has an impact on the economy and on the recipients of public services.

Other Income Losses. Other categories of loss that result in a local economic impact include rental income and other investment income losses by local property owners and investors. These losses will primarily be felt as reductions in unearned incomes to households owning those assets.



Image Source:
University of Iowa

Will Disaster Assistance Payments Offset the Economic Impacts of Flooding?

Federal and state disaster assistance, charitable donations, and social assistance programs will partially offset some of the productivity losses to the region.

The federal and state disaster assistance programs take the form of direct payments, grants, and no-interest or low-interest loans to individuals, businesses, and communities.

Social assistance programs may also provide an infusion of cash to local households. These programs include Food Stamps, unemployment insurance compensation, and others. In addition, FEMA may provide housing vouchers and other forms of assistance to aid households

All of these transfers represent income to the region, and they result in an economic impact to

the extent that they are spent locally or they sustain local workers and productivity.

The length of time it will take for these transfers to impact the local economy will vary. Federal disaster assistance may begin to flow within weeks. Small business loans may take longer. Infrastructure rebuilding might be meted out over several months and years..

Find information about various disaster assistance programs at the State of Iowa's Flood Resource Center, on the Web at the following link:

www.flood2008.iowa.gov

How Will Reconstruction Efforts Affect the Local Economy?

During the recovery, homes will be refurbished and refurnished, businesses will restore their facilities, and governments will supervise the repair and reconstruction of public roads, bridges, water, and waste treatment facilities.

The spending related to reconstruction efforts may actually stimulate some sectors of the

local and state economy; however, these gains will be short-term, highly localized regionally, and within specific industrial categories.

Types of businesses that might experience a boost include cleaning services, demolition and waste services; the construction sector; skilled trades (electrical, plumbing, dry-

walling, painting); building materials suppliers; and general merchandise and appliance stores.

Some of these increased sales may be captured by local merchants and tradespersons, but not all.



Image Source:
USDA-NRCS

What Are The Prospects for Community Recovery?

The prospects for local neighborhoods and business districts to recover depends in large part on their relative health before the flooding.

Many households were already experiencing economic stress due to high energy and food prices and fallout from the mortgage crisis. These losses may accelerate a decline in homeownership in some areas. Local residents who were commuting long distances to work may decide that now is the time to move closer to their jobs as floods seriously disrupt travel routes.

Additionally and importantly, the persons who tend to live in flood prone areas have lower than average incomes and much fewer resources to aid in their recovery. Those displaced by the flooding may have difficulty finding affordable replacement

housing in the area. As a result of these accumulated pressures, many communities, especially smaller ones, face the risk of losing residents.

Traditional downtown business districts face challenges as well. For example, much of modern retail development in Iowa's communities has occurred outside of the traditional downtown districts. Many of these retail developments, with their big box stores, may have escaped the damage sustained in the older, downtown areas.

In smaller communities, commercial districts were already experiencing stress due to sales leakage to larger regional trade centers. These shifts in the location of spending could accelerate due to disruptions caused by the flooding.

Some businesses will fare better than others. For example, businesses owned or operated by large chains, such as the hotels and restaurants that were flooded in Coralville, have a greater likelihood of surviving than your typical sole proprietorship.

Independent and locally owned businesses have a two-fold challenge of maintaining their contacts and business base as people attend to their own flood-related issues, while simultaneously rebuilding without the support of a larger network of stores or businesses to help absorb the loss.

For service based businesses that are less reliant on inventory or specialized equipment, their strengths are in their human capital. In those cases, recovery might be quicker.

Conclusions and Evidence From Past Floods

Past experience tells us that during the recovery there will be positive economic growth in some areas. As insurance and disaster assistance flows into flood impacted regions to houses, businesses and governments, and as public entities shift public spending to restore necessary infrastructure, there will be strong increases in commercial activity and construction.

In the 1993 floods, real nonfarm GDP in Iowa actually posted a 2.7 percent gain. Most of that reconstruction and those

impacts were distributed along the Mississippi River and from Des Moines southward along the Des Moines River.

In every disaster there is a flurry of recovery activity and spending. This activity boosts state and regional accounts, yet masks the magnitude of losses. For example, the flood-induced run-up on crop prices will yield windfall profits for unaffected farmers.

Gains to one part of the economy or to one region do not come near offsetting the sum of all losses to homeowners,

flooded out farmers, or businesses. Despite any apparent gains in the aggregate economy, there will be strong pockets of loss.

Many households will not be made whole. Many governments will lose and not be able to replace important infrastructure or amenities. Many communities will lose part of their character or cohesion. And many people will be fed up and relocate.



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