Deindustrialization’s impact on the manufacturing-intensive economy of the Great Lake city Milwaukee, Wisconsin was devastating. In the 1979-1982, nearly 57,000 manufacturing jobs were lost. Subsequent recovery was largely due to employment growth in service-producing industries, but Milwaukee still remains an important durable goods manufacturing sector, and has less than the national average in services-producing employment. Up until the most recent downturn in the business cycle, those metropolitan economies with greater proportions of their employment in services than Milwaukee’s appeared to be less subject to downturns in the business cycle; the 1990-91 recession seemed to be qualitatively different than previous recessions.

This paper begins with an overview discussion of the 1990-1991 recession from an occupational and industrial distribution perspective to determine if the 1990-91 recession was indeed the “first services recession” that it was labelled. Next, comparative analyses are made using an industry-focused version of the shift-share method to examine the Milwaukee Standard Metropolitan Statistical Area (SMSA) economy’s performance relative to the nation’s for two time periods, 1979-1989 and 1989-1992. These analyses demonstrate that Milwaukee was relatively immune to the most recent recession, and they point to Milwaukee’s later shift towards services-producing employment in combination with its continued higher concentration of manufacturing employment as the mitigating factors. This paper concludes by discussing whether such factors may be expected to be mitigating factors for Milwaukee and similar traditional industrial economies’ experiences in future recessions.

INTRODUCTION

Deindustrialization’s impact on the manufacturing-intensive economy of Milwaukee, Wisconsin, was devastating. In the 1979-1982, nearly 57,000 manufacturing jobs were lost. Subsequent recovery was largely due to employment growth in service-producing industries, but Milwaukee still remains an important durable goods manufacturing sector. Industrial controls and small engine manufacture are two of the mainstays of this durable goods production.

At the beginning of the 1990s, nearly eight of every ten jobs nation-wide were in service-producing employment. For Milwaukee, however, the figure was closer to seven out of ten. Over the past several decades, those metropolitan economies with greater proportions of their employment in services than Milwaukee’s appeared to be less subject to downturns in the business cycle. In fact, in every recession during the postwar period until the most recent one, services employment continued to grow. That job losses showed up in service sectors led some early observers to label the 1990-1991 downturn a ‘services’ recession.

This paper begins with an overview discussion of the 1990-1991 recession from an occupational and industrial distribution perspective to determine if the 1990-91 recession was indeed a services recession. The subsequent analysis focuses on industrial restructuring to gain insight into why the Milwaukee recession experience did not mirror that for the nation as a whole. This analysis begins by examining the decade of industrial restructuring in Milwaukee preceding the 1990-91 national recession, using the ES202 database.
constructed by the Urban Research Center of
the University of Wisconsin-Milwaukee. This
is a unique, annually-produced data set on
establishments, employment, and earnings
that has been constructed from data the State
of Wisconsin collects from employers for its
unemployment insurance program. With the
ES202 data and national-level County Busi-
ness Pattern data, a comparative analysis
using an industry-focused version of the shift-
share method examines the Milwaukee Stan-
dard Metropolitan Statistical Area (SMSA)
economy’s performance relative to the nation’s
for the 1979-1989 decade.

Next, shift-share analyses and comparative
data (using Wisconsin Job Service data and
national Employment and Earnings data) are
used to examine the 1989-1992 period which
encompasses the most recent recession. This
examination indicates Milwaukee was rela-
tively immune to the most recent recession,
and leads us to question whether SMSA
economy’s later shift towards services-produc-
ing employment in combination with its conti-
ued higher concentration of manufacturing
employment were mitigating factors.

This paper concludes with a discussion the
implications of its findings for more traditional
industrial economies’ experiences in future
recessions.

An Overview of The 1990-1991 National
Recession

'Recessions' as Samuelson has observed,
‘are a grim sort of industrial policy. They
promote efficiency and punish sloppiness.’
(1991) In this paper we will attempt to sort out
the distinctions between the Milwaukee SMSA
and the national economy in efficiency-promo-
tion and punishment of sloppiness that oc-
curred in the most recent recession. First,
however, we need to sort out the distinctions
between this recession and its predecessors.

The recession which greeted the start of this
century’s final decade was thought by many at
the time it was occurring to be a unique phe-
nomenon in the nation’s economic history.
Labelled early on as its first ‘Services Reces-
sion,’ this downturn in the US economy, offi-
cially charted between July 1990 and March
1991, ended the nation’s longest period of
peacetime expansion.

There are, in actuality, several aspects of
this recession that distinguish it from its pre-
decessors in the postwar period. It was short-
er, officially lasting 8 months compared to an
average of 11 months, and employment only
declined 1.0 percent during this recession
compared to an average 2.5 percent in previ-
ous postwar recessions (Singleton 1993).

This recession, however, was accompanied
by a far more sluggish job market than its
predecessors. Singleton notes the: ‘ ’growth
recession’—a period of modest overall growth,
below the trend...was longer than that corre-
sponding to any other postwar recession.’
This growth recession period began in Febru-
ary 1989, lasting sixteen months before the
official onset of the recession.

The recovery period since the recession
officially ended is distinct from previous post-
war recessions as well in that employment did
not begin rebounding immediately, but rather,
only resumed a sustained (and modest) up-
turn one year later.

Additionally, gross domestic product fell less
while personal consumption expenditures fell
significantly more than each has in previous
recessions. These personal consumption
expenditures account for two-thirds of gross
domestic product (GDP). When GDP is di-
vided into the three categories of durable
goods, nondurable goods, and services, it is
the percent change in services expenditures
that shows a marked deviation from previous
recessions and, perhaps, contributes to the
impression that this was overall a services
recession. These service expenditures, which
account for over one-third of GDP, fell only

one half percent during the recent recession. However, if services expenditures had continued to grow at their same rate for previous recessions, the decline in GDP in this recession would have been smaller by $50 billion (Singleton 1993).

Recessionary Impacts on Occupational and Industrial Mix

In examining the 1990-91 recession’s impact on the nation’s employment structure, and making comparisons to previous recessions, the impacts can be considered on the occupational mix or the industrial mix of jobs.

Turning first to examine the impacts of occupational mix on the most recent recession, as compared with its predecessors, the media and various analysts have suggested that the 1990-1991 recession was the nation’s first ‘white-collar’ recession. It was thought as the recession was in full-swing that the downturn was hurting white-collar workers more than blue-collar workers. The subsequent recovery period, furthermore, has been accompanied by concerns that many white-collar workers are not participating in the recovery.

Grosen and Williams (1992) have suggested a number of reasons why recessions may affect occupations differently. First, compared to blue-collar workers, white-collar workers are less tied to production, have higher replacement costs, and perform less divisible tasks. Thus, they are more likely to be retained when a company cuts output and lays off blue-collar, production workers in response to falling demand.

Second, employers may make adjustments to white-collar worker costs by lowering their profit shares or bonuses, components of pay structures which are more flexible than those of their blue-collar workers. The latter are simply more likely to lose their jobs. Third, the secular decline in blue-collar employment has deepened the impact of recessions on this group of workers.

<table>
<thead>
<tr>
<th>Recession</th>
<th>White Collar</th>
<th>Blue Collar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>3.3</td>
<td>8.8</td>
</tr>
<tr>
<td>1969-70</td>
<td>3.6</td>
<td>7.4</td>
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<tr>
<td>1973-1975</td>
<td>4.8</td>
<td>11.9</td>
</tr>
<tr>
<td>1980</td>
<td>3.8</td>
<td>10.9</td>
</tr>
<tr>
<td>1981-1982</td>
<td>5.6</td>
<td>15.6</td>
</tr>
<tr>
<td>1990-1991</td>
<td>4.2</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Source: Excerpted from Grosen and Williams, ‘White- and Blue-Collar Jobs in the Recent Recession.’

Table 1: National White and Blue Collar Unemployment During Recessions

There are at least three reasons white-collar workers could have been affected in particular by the most recent recession according to Grosen and Williams. These include the fact that recession affects industries differently, and if white-collar workers are disproportionately represented in an industry affected by the recession—such as was the case with finance, insurance, and real estate—their job losses may be greater. Additionally, the relative indivisibility that existed previously in the work of white-collar occupations may have been eroded by the increasing tendency to contract out for functions such as accounting, advertising, and office functions. In a recession, therefore, such contracts can simply not be renewed, causing job loss among the white-collar subcontractees. Finally, the greater a group’s share of total employment and labor costs, the greater the impact a recession will have on that group. Over time, white-collar’s share of total employment has been rising at the same time that the pay
differential between it and blue-collar employment has been growing. Thus, employers seeking to realize cost savings during a recession may increasingly look to white-collar employment.

Grosen and Williams define white-collar jobs to include managerial and professional specialties, as well as technical, sales, and administrative occupations, while blue-collar jobs include precision production, craft, and repair workers, operators, fabricators, and laborers, as well as farming, forestry, and fishing occupations. They note, however, that the officially designated service occupations which include workers in private households as well as protective, health, food, and personal service industries, do not fit easily into either white- or blue-collar categories. These occupations tend to resemble white-collar employment in that they produce intangible, nonstorable products. However, they resemble blue-collar employment in that they may be physical in nature, require relatively low levels of general education, and are more likely to offer hourly wages.

An examination of the data reveals that it was blue-collar, not white-collar workers, who bore the brunt of the most recent recession. White collar workers accounted for less of the total number of unemployed, and their unemployment rate was less than half that of blue-collar workers. During the recession, however, the make-up of unemployed became more white-collar, although not enough to dominate the other professions. Furthermore, blue-collar employment shrank around 3% during the recession, while white-collar employment grew slightly (3/10%). Although the recession was not a white-collar one, it was as Grosen and Williams conclude 'deeper, in a historical sense, for white-collar than blue-collar workers' as growth generated in employment was smaller than its predecessors. Comparison of the experiences of white- and blue-collar workers in the first fifteen months since the recession's official end reveals, overall, the recovery is quite weak, that unemployment rates have risen for both groups, but more so for white-collar workers.

Turning to examine the impacts of the most recent recession from an industrial mix perspective—which will be the focus of our Milwaukee examination—goods-producing jobs

<table>
<thead>
<tr>
<th>Industry</th>
<th>Average Recession</th>
<th>1990-91 recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total nonfarm</td>
<td>-2.5</td>
<td>-1.0</td>
</tr>
<tr>
<td>Goods-Producing</td>
<td>-8.1</td>
<td>-4.0</td>
</tr>
<tr>
<td>Construction</td>
<td>-6.2</td>
<td>-7.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-8.4</td>
<td>-3.2</td>
</tr>
<tr>
<td>Durable goods</td>
<td>-11.2</td>
<td>-4.4</td>
</tr>
<tr>
<td>Nondurable goods</td>
<td>-4.5</td>
<td>-1.6</td>
</tr>
<tr>
<td>Service-Producing</td>
<td>.5</td>
<td>-2.2</td>
</tr>
<tr>
<td>Transportation &amp; public utilities</td>
<td>-3.7</td>
<td>-5.2</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>-7.7</td>
<td>-1.4</td>
</tr>
<tr>
<td>Retail trade</td>
<td>-8.8</td>
<td>-4.5</td>
</tr>
<tr>
<td>Finance, insurance &amp; real estate</td>
<td>1.7</td>
<td>-3.7</td>
</tr>
<tr>
<td>Services</td>
<td>2.4</td>
<td>.6</td>
</tr>
<tr>
<td>Government</td>
<td>1.6</td>
<td>.7</td>
</tr>
</tbody>
</table>

Source: Excerpted from Singleton, 'Industry employment and the 1990-91 recession', Table 2.

Table 2: Percent Change in Employment during Recession in Select Major Industry Groupings
experienced the greatest declines at the national level in the most recent, as well as the preceding recessions. Prior to the 1990-91 recession, however, these job losses would be partially offset by service-producing job growth which averaged one-half of one percent of total employment. However, job growth was nearly 2.5% in the sector labelled ‘services’.

As Singleton (1992) has observed, ‘This [0.2 percent] decline translated into 140,000 job losses, in sharp contrast to growth of 425,000 that would have occurred had the recession been ‘typical’’. Of the six service-producing industries listed in Table 2, that labelled ‘services’ exhibited the greatest difference in trends from previous recessions. It grew at a much lower rate than its pace for previous recession such that, instead of the 675,000 jobs it could have been expected to create, it added only 160,000. In terms of actual job loss within this industry, the business services category suffered the most, down 115,000, and over three-quarters of these jobs were in personnel supply services ‘...as the demand for temporary contract workers fell along with the fortunes of the contracting companies.’

Typically, goods-producing industries have longer downturns during recession. Their contraction in the most recent recession began in 1989 within the manufacturing industries, and continued through the end of 1992. However, during the actual recession, manufacturers experienced job losses of 8.1% compared to previous averages of 9.4%. Singleton suggests this relative improvement is due to industry restructuring in the previous decade that has resulted in leaner and more competitive manufacturing companies, thereby, reducing their need for layoffs. Within manufacturing, losses were greatest in durables producers. In contrast, the construction industry’s contraction at 16.3% was much greater than previously.

Other service-producers such as transportation and public utilities, wholesale trade, and retail trade, suffered job losses that ranged from one-half to two and one-half percent. The losses in transportation and public utilities (in particular, trucking) and in wholesale trade were primarily associated with the downturn in manufacturing. The overall downturn for the finance, insurance and real estate industry lasted from August 1990 to August 1992, and amounted to 170,000 jobs. The finance industry, in particular savings institutions, accounted for a disproportionate share of the job losses which were partially offset by the addition of 35,000 jobs among the insurance carriers (e.g., life, medical and health insurance) (Singleton 1992).

Milwaukee’s Experience in the Recent Recession

Milwaukee’s experience in the most recent recession simply, and surprisingly, did not appear to be as severe as that of the nation overall. Business-cycle related data collection at the local level is less frequent and detailed than at the national level, thereby obscuring as precise a comparison between the two regions during the recessionary period as we might like. However, if we look at the three year period encompassing the 1990-91 recession, from March 1989 to March 1992 (which includes expansionary and recessionary phases of the business cycle), total employment in the Milwaukee SMSA grew 2.2% compared to 1.1% for the Nation. This is an unexpected finding given that the Milwaukee SMSA’s employment structure has been, and continues to be, more heavily weighted towards manufacturing—specifically in durable goods—than the nation as a whole. At twenty-seven percent in 1979, Milwaukee had 11% more employment in durable goods than the nation; (See Figure 1). This differential had been halved by 1992, but Milwaukee’s employment in durable manufacturing was still just over
nation’s unemployment rate rose higher, averaging 7.7% during 1992 (U.S. Department of Labor 1993), while the metro area’s fell slightly, averaging 4.5% for 1992 (Waukesha Area Employment Review 1993).

Milwaukee fared much worse in the recessionary period of the early 1980s. In the 1979-1983 period, which encompasses the back-to-back recessions of 1980 and 1981-1982 (McKeees 1992), Milwaukee’s total private sector employment declined 12.1% compared to 2.3% for the nation (Figure 2). (The latter two recessions lasted six months—from January to July of 1980, and sixteen months—from July 1981 to November 1982, respectively.) The precipitous employment drop of this period appears to have "cleaned Milwaukee’s house" rather thoroughly. Nearly 52,000 jobs were lost in durable goods manufacturing alone. This 6% employment decline in durable goods was more than double the percent the nation experienced as a whole. Subsequent to the 1979-83 period, Milwaukee’s employment growth path has more closely paralleled the nation’s, though always slightly exceeding it.

**Milwaukee’s Recent Industrial Experience from a Shift-Share Analysis Perspective**

A shift-share analysis of the 1979-1989 decade was conducted to further insight into the changes that set up the Milwaukee metro economy’s relative to the nation to fare more positively in this last recession than in the twin recessions of the early 1980s. Generally speaking, shift-share analysis is a popular and simple-to-use descriptive technique in regional

---

*Figure 2: Percent Change in Total Employment*

15% compared to less than 10% for the nation.

Two additional pieces of evidence suggest that Milwaukee did not fare as poorly as the nation did as a whole during this past recession. First, between March of 1990 and March of 1991—a twelve-month period for Milwaukee that more closely corresponds to the official recession, preliminary data indicates that the SMSA’s manufacturing declined only 2%. This is in contrast to, it may be recalled, the 8% decline in manufacturing for the nation as a whole during the official eight months of the recession.

Second, Milwaukee’s unemployment rate remained consistently below that of the nation’s, increasing from 3.5% at the recession’s beginning in July 1990, to 5% at its end in March 1991. In contrast, the nation’s unemployment rate was 7.1% at its maximum point during the recession. Subsequently, the
economic analysis that decomposes change in a local economy relative to a larger reference economy as a function of three components: the proportional share effect, the industry mix effect, and the regional shift effect.

The shift-share method employed here follows that of Hoppes (1991). It is labelled an industrial rather than a regional analysis by him because it focuses on the industrial structure within a region to explain overall change. Hoppes' shift-share tool is named the DEM method because it incorporates modifications suggested in the work of Dunn and Esteban-Marquillas.

In the DEM shift-share method, the proportional share (PS) effect identifies the change in regional employment that is due to change in the larger, reference economy after the region's industrial structure has been made proportional to the reference economy's. It is proportionality to the reference economy that is the significant variation of DEM from traditional shift-share analysis. In the traditional approach, each industry is assumed to grow at the same rate as the base economy overall.

The industry mix (IM) effect measured in shift-share analysis reflects the change in regional employment relative to the reference economy. If the IM effect is positive for an industry sector, it means the sector is expanding in the reference economy (thus exceeding the overall growth rate for the reference economy).

The third component of shift-share analyses is, the regional share (RS) effect, measures the change due to the difference between actual industry specific employment levels in the regional economy and the hypothetical levels that would be suggested by the reference economy. If the regional share effect is positive for a particular industry, then that industry's competitiveness in the regional economy is strengthening relative to the reference economy.

In applying the DEM shift-share method to the Milwaukee SMSA, we will first examine the proportional shift effect. Here Milwaukee's industrial structure was made proportional to the national economy for four time periods--1979-83, 1983-87, 1987-1989, and 1989-1992. The national economy growth rate for each industry sector was applied to the respective Milwaukee industry sector at the beginning of each period. To interpret, in Table 3, if Milwaukee's industrial structure had been congruent to the Nation's in 1979, we would have expected its durable goods manufacturing employment to have decreased 2,264 and the 'services' sector to have decreased 3,191 by 1983. Overall, employment would have dropped nearly 14,000.

When we look at the regional shift effect, however, we find it was Milwaukee’s deviation in industry structure relative to the national economy that led to the bulk of job loss which amounted to nearly 57,000. In particular, it was Milwaukee’s employment in durable goods manufacturing and 'services' that was primarily eliminated. The regional shift effect indicates for the 1979-83 period that only Milwaukee's finance, insurance, and real estate, and, nondurable manufacturing sectors were increasing in competitiveness relative to the national economy.

Relative to the PS and RS effects, the industry mix for the 1979-83 period was small. While durable goods and 'services' are indicated by the IM effect to be declining faster than the nation, Milwaukee's construction, retail trade, and nondurable manufacturing employment were growing faster. Furthermore, the decline in durable goods and 'services' was reversed in the subsequent two time periods of the decade.

In these two subsequent periods, the negative IM effect for durable goods manufacturing and 'services' disappeared, but the summary regional shift figure remained negative for the 1983-1987 period. Durable goods, retail
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</tr>
</thead>
<tbody>
<tr>
<td>*GOODS PRODUCING</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Construction</td>
<td>-877</td>
<td>372</td>
<td>-3,928</td>
<td>38,288</td>
<td>4,825</td>
<td>-2,412</td>
<td>2,238</td>
<td>28,141</td>
<td>2,576</td>
<td>-1,102</td>
<td>1,183</td>
<td>35,823</td>
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<td>Nondurable manufacturing</td>
<td>-1,490</td>
<td>326</td>
<td>708</td>
<td>65,056</td>
<td>9,014</td>
<td>-1,065</td>
<td>1,784</td>
<td>52,571</td>
<td>3,804</td>
<td>-257</td>
<td>2,413</td>
<td>52,899</td>
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<tr>
<td>SERVICE PRODUCING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation and public utilities</td>
<td>-876</td>
<td>51</td>
<td>-318</td>
<td>38,243</td>
<td>5,832</td>
<td>221</td>
<td>35</td>
<td>34,000</td>
<td>2,694</td>
<td>158</td>
<td>-889</td>
<td>37,458</td>
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<tr>
<td>Wholesale trade</td>
<td>-986</td>
<td>171</td>
<td>-1,441</td>
<td>43,080</td>
<td>6,564</td>
<td>-782</td>
<td>212</td>
<td>38,280</td>
<td>3,070</td>
<td>-299</td>
<td>2,024</td>
<td>42,689</td>
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<td>Retail trade</td>
<td>-2,882</td>
<td>469</td>
<td>-5,201</td>
<td>125,842</td>
<td>19,520</td>
<td>-2,249</td>
<td>-9,051</td>
<td>113,837</td>
<td>9,714</td>
<td>-1,606</td>
<td>5,044</td>
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<td>-982</td>
<td>124</td>
<td>429</td>
<td>42,865</td>
<td>7,106</td>
<td>-130</td>
<td>-3,194</td>
<td>41,440</td>
<td>3,548</td>
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<td>-564</td>
<td>-27,077</td>
<td>139,247</td>
<td>24,134</td>
<td>2,789</td>
<td>-1,833</td>
<td>140,744</td>
<td>12,732</td>
<td>1,609</td>
<td>-4,209</td>
<td>177,051</td>
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<td>SUMMARY OF EFFECTS</td>
<td>-13,547</td>
<td>-623</td>
<td>-56,712</td>
<td>89,334</td>
<td>3,862</td>
<td>-14,250</td>
<td>43,518</td>
<td>1,184</td>
<td>10,309</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*slack agr. & mining*

Source: U.S. Department of Commerce, County Business Patterns

Table 3: Milwaukee SMSA Shift-Share Analysis for 1979-83, 1983-87, 1987-89
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GOODS PRODUCING</td>
<td>176,075</td>
<td>220,792</td>
<td>187,875</td>
<td>167,366</td>
<td>198,211</td>
<td>176,825</td>
<td>188,200</td>
<td>168,376</td>
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<tr>
<td>Contract Construction</td>
<td>14,073</td>
<td>38,288</td>
<td>20,493</td>
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<td>22,242</td>
<td>35,823</td>
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<td>Manufacturing</td>
<td>162,002</td>
<td>178,468</td>
<td>167,382</td>
<td>136,258</td>
<td>175,969</td>
<td>139,372</td>
<td>165,200</td>
<td>131,607</td>
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<tr>
<td>Nondurable</td>
<td>46,359</td>
<td>65,056</td>
<td>49,319</td>
<td>52,571</td>
<td>53,100</td>
<td>52,899</td>
<td>52,700</td>
<td>53,929</td>
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<tr>
<td>Durable</td>
<td>115,643</td>
<td>98,881</td>
<td>118,063</td>
<td>71,962</td>
<td>122,869</td>
<td>74,809</td>
<td>112,500</td>
<td>77,678</td>
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<td>SERVICE PRODUCING</td>
<td>367,434</td>
<td>389,376</td>
<td>436,517</td>
<td>368,311</td>
<td>478,885</td>
<td>441,612</td>
<td>554,000</td>
<td>557,824</td>
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<tr>
<td>Transportation and public utilities</td>
<td>35,298</td>
<td>38,243</td>
<td>39,651</td>
<td>34,010</td>
<td>41,171</td>
<td>37,458</td>
<td>36,800</td>
<td>37,651</td>
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<tr>
<td>Wholesale trade</td>
<td>33,722</td>
<td>43,080</td>
<td>38,533</td>
<td>38,280</td>
<td>42,759</td>
<td>42,689</td>
<td>43,300</td>
<td>43,035</td>
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<td>Retail trade</td>
<td>100,723</td>
<td>125,842</td>
<td>112,735</td>
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<td>123,402</td>
<td>135,074</td>
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<td>40,683</td>
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<td>46,166</td>
<td>41,440</td>
<td>49,897</td>
<td>49,340</td>
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<td>45,047</td>
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<td>Services</td>
<td>157,008</td>
<td>139,347</td>
<td>199,432</td>
<td>140,744</td>
<td>221,656</td>
<td>177,051</td>
<td>209,500</td>
<td>181,180</td>
</tr>
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Source: U.S. Department of Commerce, County Business Patterns, Parts 1-3, 1979, 1983, 1987, 1989, and U.S. Department of Labor, Employment and Earnings, 1993. Note: actual employment is for the week of March 12 of the respective year; goods-producing employment excludes agriculture and mining; service-producing excludes government. Adjusted employment is what Milwaukee's employment would have been had its industry distribution been the same as the nation's.

Table 4: Actual and Adjusted Milwaukee SMSA Employment
trade, FIRE, and 'services' were all losing their competitiveness relative to the national economy. By the end of the decade, only transportation and public utilities and 'services' were losing their competitiveness relative to the nation.

If we look at Table 4, we can see how Milwaukee's actual employment compares to an 'adjusted regional employment' figure that indicates what Milwaukee's employment would have been by industry sector if, at the beginning of the period under examination, its industry structure had been congruent to the Nation's. In all four time periods, actual employment in contract construction and retail trade was below the adjusted (or expected) employment level, while durable goods and 'services' was always above, suggesting that the exploration of connections between the latter two might be fruitful for furthering understanding of Milwaukee's evolving employment structure. In addition, for all but the 1979-1983 period, actual employment was above the adjusted level for the wholesale trade as well as the Finance, Insurance, and Real Estate sector.

Milwaukee's 1992 actual goods-producing employment was nearly 20,000 above its adjusted level while its service-producing employment was close to 4,000 less. The three largest industry sectors in the SMSA today are, respectively, 'services', retail trade, and durable manufacturing. The industry mix effect for durable manufacturing employment has alternated between negative and positive ranges over the four time periods examined. The 'services' industry mix effect was always positive. In contrast, the retail sector's industry mix effect was negative for the first three periods. The largest negative impact (-2,249) occurred during the 1983-1987 period. In the subsequent two periods, the negativity of the impact shrank and reversed itself suggesting that Milwaukee's historically smaller proportion of retail employment was a negative influence on employment growth until the 1989-92 period, then it yielded a small positive impact.

In addition, the fact that the period encompassing the most recent recession was the first in which overall service-producing employment's growth did not exceed its adjusted figure, while the goods-producing sector did continue to exceed its adjusted figure, and did so entirely because of the durable goods sector's actual employment, suggests that durable goods employment remains an important mainstay of the Milwaukee economy.

Figure 3 graphs the regional shift factor against the proportional shift factor for Milwaukee displayed in Table 5 for the 1989-92 period following a format suggested in Landis (1985). Loser sectors--those with negative regional and proportional shift factors--are shrinking in the Milwaukee economy faster than they are in the nation. Milwaukee's only loser sector was nondurable manufacturing. The mixed loser sector--growing in importance in the nation but declining in Milwaukee--was finance, insurance, and real estate. Trade (retail and wholesale), construction, and durable goods manufacturing were all mixed winners--losing importance nationally but growing locally. Finally, the winner sectors--growing in both the Milwaukee and national economy--were government, 'services', and the transportation and utilities sectors. This last category of 'winners' would appear to be the most desirable on the surface since it implies that the local economy is gaining strength in a growing sector of the overall economy. Given that Milwaukee's employment picture fared better than the nation's in the most recent period, however, we may want to draw more favorable inferences about the sectors in the mixed winner category. Traditionally, they might be considered a 'mixed blessing' in that Milwaukee appears to be gaining strength in areas that are declining.
<table>
<thead>
<tr>
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<tr>
<td>Total Employment*</td>
<td>726,200</td>
<td>742,400</td>
<td>107,026,000</td>
<td>108,200,000</td>
<td>-8.705</td>
<td>-1.563</td>
<td>-132</td>
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<td>Goods Producing</td>
<td>198,600</td>
<td>188,200</td>
<td>24,815,000</td>
<td>23,532,000</td>
<td>-9.36</td>
<td>319</td>
<td>2,417</td>
<td>32,169</td>
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<td>Construction</td>
<td>21,200</td>
<td>23,000</td>
<td>4,741,000</td>
<td>4,603,000</td>
<td>-7.586</td>
<td>-2.640</td>
<td>-1,975</td>
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<td>Manufacturing</td>
<td>177,400</td>
<td>165,200</td>
<td>19,396,000</td>
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<td>-6.995</td>
<td>-4.055</td>
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<td>77,678</td>
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<td>Durable</td>
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<td>112,500</td>
<td>11,448,000</td>
<td>10,417,000</td>
<td>-5.90</td>
<td>-8</td>
<td>-1,401</td>
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<td>Nondurable</td>
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<td>52,700</td>
<td>7,948,000</td>
<td>7,861,000</td>
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<td>-1,868</td>
<td>557,824</td>
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<td>Service Producing</td>
<td>526,400</td>
<td>554,000</td>
<td>82,211,000</td>
<td>84,668,000</td>
<td>16,671</td>
<td>-939</td>
<td>11,868</td>
<td>557,824</td>
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<tr>
<td>Finance, Insurance &amp; Real Estate</td>
<td>51,800</td>
<td>51,600</td>
<td>6,639,000</td>
<td>6,675,000</td>
<td>244</td>
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<td>Services</td>
<td>193,400</td>
<td>209,500</td>
<td>26,702,000</td>
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<td>13,170</td>
<td>888</td>
<td>2,042</td>
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<td>Trade</td>
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<td>Wholesale Trade</td>
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<td>27</td>
<td>3,417</td>
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<td>Retail Trade</td>
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<td>124,300</td>
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<td>19,092,000</td>
<td>-156</td>
<td>9</td>
<td>2,347</td>
<td>129,700</td>
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<td>Government</td>
<td>82,600</td>
<td>88,400</td>
<td>18,011,000</td>
<td>18,507,000</td>
<td>3,365</td>
<td>-1,091</td>
<td>3,525</td>
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<td>Trans/Utilities</td>
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<td>5,754,000</td>
<td>1,391</td>
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<td>37,651</td>
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<td>8,149</td>
<td>-2,499</td>
<td>11,550</td>
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Note: Data for Milwaukee and for the Nation are for the month of March. Milwaukee totals may not total due to rounding. For Milwaukee, mining is included in the total, but not in "Goods-Producing" (and is 3030 or less employees).

Milwaukee data—various issues of the "Milwaukee Area Employment Review," Ron Ramlow, Job Service Labor Market Information, Milwaukee, WI.

Table 5: DEM Shift-Share Analysis
Figure 3: Milwaukee SMSA 1989-1992
Overall, however, these sectors helped Milwaukee’s economy out-perform the nation’s.

Conclusion

The popular media’s treatment of the 1990-91 recession as the nation’s first ‘services recession’ is symptomatic of much of the sloppy thinking and overall lack of understanding of postwar economic restructuring, particularly its acceleration in the last two decades. The service label has been glibly tacked on to the national economy, and just as glibly tacked on to the most recent recession.

The review of recent national level research into the nature of the 1990-91 recession presented in this paper indicates that this past recession, despite its media labels, was neither a service or a white-collar recession. The national recession-gazing lens appeared to have gotten out of focus because service-producing employment did not behave as it had in previous recessions, and because white-collar unemployment was far more noticeable. From an industrial perspective, the goods-producing sectors experienced the greatest job loss in this recession, just as they have in all previous recessions. However, the 1990-91 recession was the first one in which goods-producing job losses were not at least partially offset by service-producing job growth. From an occupational perspective, it was blue-not white-collar workers who bore the brunt of the recession. The white-collar unemployment rate during the recession was less than half that of blue-collar workers. The 1990-91 recession was, however, deeper for white-collar employment than it had ever been and in the subsequent weak recovery period, white collar unemployment rates have risen somewhat.

The retrospective examinations we are able to make of the 1990-91 recession can be of significant value in furthering our understanding of economic restructuring, and hopefully, for designing effective responses for economic development planning.

Milwaukee is one of the nation’s oldest industrial centers and has long been a leading producer in the U.S. durable goods market, particularly in electrical and nonelectrical machinery. Why the Milwaukee metropolitan economy was relatively unscathed in the recent recession may have less to do with the fact that it is a durable goods center and still has two and one-half of every ten jobs in the manufacturing sector, than with its response to the twin 1980s recessions. Milwaukee did experience job losses in durable goods-manufacturing and in the ‘services’ sector, but the ‘Samuelson industrial policy effect’ of recession was more grim for the national economy as a whole in the most recent recession.

The industrial policy effect of the twin 1980s recessions was, however, exceedingly grim for the Milwaukee manufacturing economy. The marginal producers appear to have largely been eliminated during this period. Productivity levels have had to be increased among Milwaukee’s durable goods manufacturers in order for them to survive and compete in the international market. Recent evidence at the national level supports the notion that US manufacturers have made great strides in productivity improvement (Nasar 1993). Further understanding of the nature of Milwaukee’s productivity improvements is needed. Additionally, our understanding of Milwaukee’s experience in the recent recession may also be strengthened by exploring in greater depth the linkage between durable goods production and the ‘services’ sector employment changes. Given the recent attention paid to the role of producer services in generating economic growth, research into trends in Milwaukee’s business services sector would appear particularly warranted (Coffey and Polese 1989, Illeris 1989, Marshall and Wood 1992.)
Among the older industrial metropolitan economies who have been so hard hit by de-industrialization, we might also want to ask if Milwaukee’s experience in the 1990-91 was unique. Along these lines, we might want to explore the relationship between employment changes in the 1980s and the 1990-91 recession’s impact on Rustbelt traditional manufacturing centers. Specific consideration of employment changes—and their inter-relationships—for durable and nondurable manufacturing and business services sectors would appear particularly warranted.

A final question this research leads us to is whether Milwaukee’s relatively easy going in the 1990-91 recession represents a one-time only credit due to its diligent restructuring of the 1980s, or, whether the metropolitan economy should expect to be treated as favorably in future downturns. One clue that suggests Milwaukee should not be terribly optimistic lies in the nature of the distinctions in the SMSA’s industrial structure versus that of the nation overall. Singleton found that a sizable portion of the employment weakness of the 1990-91 was caused by defense-related, automobile-related, and construction-related industries. Of these three groups, only construction-related industry could be found in any comparable proportion in the Milwaukee economy, and even so, it did not match the national level in the recent recession. The recent defense-related industry decline is more than cyclical and is, instead, a structural response to the end of the cold war. Thus, it may not play a major role in a subsequent recession. The job losses in auto-related industries are also structural as well as cyclical. The productivity improving steps these industries are adopting suggest that their overall dependency on labor and need to shed labor during subsequent recessions may significantly diminish.

There are two additional reasons that Milwaukee should not become sanguine about future recessions. Pressures to increase productivity are very strong in durable goods manufacturing firms in order for them to remain competitive in the international economy. These pressures are strong among the service sectors as well since a previously important force in the demand for services—the rise of the baby boom generation—is now waning. Thus, these important sectors of Milwaukee’s economy should not expect to escape the employment-downsizing impacts associated with new productivity improving technologies. In fact, Milwaukee’s most successful durable-goods survivors from the 1980s achieved their victories by becoming more productive and less labor-intensive operations. Their continued path of success dictates more of the same. Recent developments in one of Milwaukee’s founding firms suggest the limits to the employment-reducing potential of their path to success are practically nil. Towards the latter half of the 1980s, Allen-Bradley, a manufacturer of industrial controls, set out to create a fully-automated factory for producing the wide array of industrial controls it sells across the spectrum of manufacturing industry. By 1992, it had accomplished its goal. Contained within its aged multi-story manufacturing site within the City of Milwaukee is a compact ‘Factory of Tomorrow’ that takes to the limit the concept of just-in-case/just-in-time production systems cogently described in Sayer and Walker (1992). Labor input for assembly and warehouse functions has not only been reduced, it has been eliminated altogether as has the cost of maintaining any inventories of finished goods. In this factory, orders for large runs as well as runs of just one unit are received on one day and filled and shipped the next day by a fully automated production system. The nature of what we call a recession may be very different indeed if the possibilities for adopting such productivity-improving processes become widespread.
References


Samuelson, Robert J., 'A Shakeout in Services,' Newsweek, August 5, 1991, p. 64.


Notes

1989-92 includes public service employment.

Acknowledgments

I wish to thank two anonymous reviewers whose comments improved the manuscript significantly.