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In the Fall 2005 issue of ***Monitoring Wisconsin****, the Institute for Survey and Policy Research (ISPR) of the University of Wisconsin-Milwaukee (UWM) presents the summary of a paper by Dr. Scott Adams and Chad Cotti on the economic effects of bans on smoking in bars and restaurants. The views expressed in this article are the authors' and not necessarily those of ISPR. Any questions should be directed to: sjadams@uwm.edu*

The Economic Effects of Bans on Smoking in Bars and Restaurants: An Analysis of Industry Employment

Scott Adams and Chad Cotti[1]

Introduction

Over the past few years, a number of municipalities in Wisconsin have considered banning smoking completely in bars and restaurants. Controversy inevitably surrounds smoking bans, with business owners concerned with the potential adverse impacts on their bars or restaurants and smokers concerned with the infringement on their rights. To date, only Appleton, Madison, and Shorewood Hills have passed bans, but currently the state is entertaining the possibility of a statewide smoking ban on restaurants. As shown in Table 1, only a few local governments in the neighboring states of Minnesota and Illinois have successfully banned smoking as well.

The relatively few ordinances in these states masks what appears to be a trend toward smoke-free eating and drinking establishments nationally. By the beginning of 2005, nine states (California-1995, Utah-1995, Delaware-2002, Florida-2003, New York-2003, Connecticut-2003, Maine-2004, Idaho-2004, & Massachusetts-2004) had passed bans on smoking in restaurants and/or bars. Most of these bans were passed in recent years, which is in line with the upsurge in municipal ordinances since 2000. About four times as many bans exist now than existed at the end of 1999. As noteworthy as the number of bans are, the geographic distribution of the laws is striking as well, with bans existing in every region of the country. The recent growth suggests that the number of bans in Wisconsin will only increase. Because of this, evidence of the impact of existing ordinances on businesses will become critical.

1 This is a summary of ongoing research being conducted by Scott Adams, an Assistant Professor at UW-Milwaukee, and Chad Cotti, a PhD candidate at UW-Milwaukee. Please contact the authors at sjadams@uwm.edu for a longer paper that contains more information about the data and methodology summarized in this article.

Expected Impacts of Smoking Bans on Businesses

Health concerns are often the driving source behind bans. Second-hand smoke is a potential concern for bar and restaurant employees and patrons. The most contentiously debated point, however, is the economic impact on the restaurants and bars that must comply. If laws do not cause significant harm to businesses, as advocates argue, there remains no substantial cost to the legislation, as the net effect on health will at least be neutral and likely positive. If the laws do hurt businesses, however, as opponents argue, then policymakers must weigh the costs to businesses with the potential health benefits.

The controversy over the net effects on businesses is not resolved by appealing to economic theory, as both sides can claim support. The opposition claims that regulations will stifle the restaurant/bar businesses by reducing patronage of smokers, and hence limiting the ability to maximize profits. Policy advocates, on the other hand, claim that smoking regulations do not hurt establishments and may even add to revenue. If a smoke-free environment induces non-smokers to spend more at restaurants and bars than is lost from a reduction in smoker patronage, bans could increase profits.

At first glance, it appears as if the opposition group is on firmer theoretical ground. If there were the potential for

Table 1

A Sample of Cities and Counties in Illinois, Minnesota, and Wisconsin With Smoking Bans on Bars and Restaurants

Municipality	State	Effective Date of Ban
Wilmette	IL	7/1/2004
Highland Park	IL	6/1/2005
Minneapolis	MN	3/31/2005
Hennepin County	MN	3/31/2005
Golden Valley	MN	3/31/2005
Appleton	WI	7/1/2005
Madison	WI	7/1/2005
Shorewood Hills	WI	12/21/2004

For more information and a complete up to date list of cities, counties, and states that have enacted bans, see the Americans for Nonsmokers Rights web page (www.no-smoke.org).

(continued on page 2).

increased revenues and reduced costs from going smoke-free, restaurants and bars would do so without regulations. This argument need not be true, however, in the presence of market failures brought about by imperfect information. After all, consumers likely underestimate the cost of second-hand smoke and over-consume it. Moreover, firms may not have accurate information about the potential changes in revenue or costs that could occur from providing a smoke-free establishment. If it is true that information failures exist and firms' understanding of the effects of a smoking ban on consumer patronage is incomplete, then moving to a smoke-free environment could increase revenues. Smoking regulations could also lower firm costs associated with smoking patrons, which include insurance premiums, ventilation, and relevant property damage.

Thus, theory leaves us with no firm guidance as to what to expect following smoking restrictions. Moreover, the results may differ for restaurants and bars. For example, smoking seems to be part of the "bar culture" and not necessarily part of the "restaurant culture," thus rendering negative effects for bars more likely. On the other hand, the unavoidable nature of smoke in bars might make the potential increase in patronage from non-smokers from a ban even greater than in restaurants. In short, this is a policy that requires empirical analysis. Since labor is the only key variable input in the short run, tracking how employment changes following the passage of laws gives a good read on the economic effect of the legislation.

New Evidence of the Effect of Smoking Bans on Employment

In addition to employment being a key barometer of bar and restaurant business, it is one variable for which consistent measures are available across localities in the United States. We used the Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages (QCEW), which is appropriate for this policy analysis because it contains nationwide county-level panel data on employment levels in both the restaurant and bar industries. We extract quarterly data for every county from January 2001 to June 2004, the last available quarter at the time the study was undertaken.

We identify short-run effects from bans passed during this time span, which encompasses the period of greatest growth in smoking ordinances. We compare changes in employment in counties that pass smoking bans to counties that do not pass bans over the same period. The latter controls for underlying trends and presents a counterfactual of what would have occurred in the counties with smoke-free ordinances had they not passed the bans. Information on the timing of laws was obtained from the Americans for Non-Smokers Rights (www.no-smoke.org). Although many laws are passed at the county level, some are passed at the city level and others are passed at the state level. The state laws certainly render the county bars or restaurants smoke-free, as do the county laws. City laws only render a portion of the county smoke-free, but we can estimate the proportion of a county's population that is smoke-free using population figures obtained from the 2000 US census. We use this information in our estimations.

In Table 2, we summarize the relative effects of laws on restaurant and bar employment after bans are passed compared with a control group of counties without bans. Reported are percentage changes in employment with standard errors in parentheses. There is an estimated 5.3 percent reduction that is significant at the .05 level when smoking is banned completely in all bars in a county. The effect on restaurants is positive but does not meet the standard of statistical significance. Given that we have data from across the nation, we can also test whether results differ by region. In particular, in warmer climates, smokers would have an option to move outside to eat or drink for more months out of the year. The table suggests that there are no remarkable differences in bar effects by climate, however, but there is a significant 5.2% increase in employment in restaurants. This suggests that restaurants in warmer climates are more likely to have an outdoor option for smokers, and the smoke-free indoor areas attract more non-smokers. We also look at effects in geographic areas with a higher prevalence of smokers and compare these to the effect of bans in areas with few smokers. We do this using information on adult smoking prevalence at the state level from the Center for Disease Control. Although the effects are negative for bars in both areas, they are larger in magnitude in high prevalence areas. The positive effects on restaurant employment are only observed in low prevalence areas with negative effects in high prevalence areas.

Concluding Remarks

Table 2

Relative Effects of Smoking Bans on County Employment in Bars and Restaurants

	Bars	Restaurants
All counties	-0.053** (0.022)	0.012 (0.011)
By climate: Warmer regions	-0.098 (0.081)	0.052** (0.019)
Colder regions	-0.034 (0.022)	-0.017 (0.010)
By smoking prevalence: High prevalence areas	-0.139** (0.059)	-0.080** (0.032)
Low prevalence areas	-0.053** (0.024)	0.034** (0.011)

Reported are relative effects of smoking bans in a county in percentage terms compared with counties with no bans. Standard errors are in parentheses. Results statistically significant at the .05 level are marked with a **.

The results trigger some additional questions. If it is true that the restaurant industry benefits from these regulations, or at least is not hurt, then why do restaurant associations fight the implementation of these laws so vigorously? The solution to this paradox may rest in the concept of information failure. If it is true that restaurant owners are not fully aware of the positive cooperative outcome of banning smoking in their establishments, then their perception about the impact of smoking regulation would be consistent with their contrarian actions.

One might also wonder why the effects on bars and restaurants differ so remarkably in similar industries. Perhaps it is because a restaurant is primarily selling food, with drinks secondary, and environment or atmosphere of lesser concern. Clean air is more conducive to enjoying food, especially among non-smokers who may be more likely to come to a restaurant following a ban. Bars, on the other hand, sell environment and atmosphere first, with perhaps drinks second and food third. Given that a smoking ban fundamentally changes the environment of an establishment, the observed negative impact on drinking establishments that we find is not surprising. Moreover, part of the bar environment is the fellow patrons, which in many cases attract customers to a particular drinking establishment. It is therefore possible that a smoking ban may alter the environment for non-smokers, leading them to shy away from bars following a ban as well. This perhaps explains why the smoking ban's negative impact on bars hits all types of counties, whether warm or cold or whether smoking prevalence is low or high, although the impact is strongest in the latter.

In summary, from a policy perspective, smoke-free ordinances for restaurants have some appeal because there does not seem to be a negative impact on employment. Coupled with what are likely to be at least minimal health benefits, smoking bans in restaurants likely have few drawbacks. On the other hand, bar employment falls following bans. Future work will have to weigh these losses against possible health gains. Moreover, our employment estimates only present the immediate impact on the bar industry. The long-term effects may differ. ■

Table 3
Wisconsin Employment Data (in Thousands)

	1990	1995	2000	2001	2002	2003	2004	2005.1	2005.2
Labor Force	2,598.9	2,881.2	2,992.3	3,032.1	3,037.9	3,068.7	3,032.8	3,066.7	3,048.8
Total Employment	2,486.1	2,773.6	2,891.2	2,898.9	2,877.0	2,896.7	2,891.0	2,920.2	2,907.8
Total Nonfarm	2,291.5	2,558.6	2,833.8	2,813.9	2,782.4	2,775.3	2,801.4	2,815.0	2,825.0
Natural Resources and Mining	3.9	4.2	4.0	3.9	3.8	3.8	3.9	3.4	3.7
Construction	87.9	101.7	124.8	125.4	124.1	124.1	124.6	130.1	132.9
Manufacturing	523.0	566.6	594.1	560.3	528.3	504.0	546.7	503.7	503.1
Trade, Trans. & Utilities	458.7	502.4	552.9	547.7	536.7	536.3	543.4	540.0	540.0
Information	44.4	45.2	53.6	53.3	51.2	50.3	52.1	50.8	50.9
Financial Activities	123.9	134.3	149.1	151.8	153.8	156.9	152.9	157.7	158.4
Professional & Business Serv.	153.6	206.9	247.0	238.5	239.8	244.3	242.4	248.5	252.4
Educational & Health Services	237.4	280.4	339.6	349.6	357.2	364.6	352.8	382.5	383.3
Leisure and Hospitality	199.3	217.9	236.7	238.6	240.4	245.5	240.3	249.2	254.9
Other Services	116.6	120.3	126.3	131.3	132.2	132.7	130.6	134.5	134.3
Government	342.9	378.7	405.6	413.7	414.8	412.9	411.8	414.5	411.0

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

About ISPR:

The Institute for Survey & Policy Research (ISPR), a premier institute dedicated to high quality surveys and policy research, was established in 1968. It is a major resource for the University of Wisconsin-Milwaukee (UWM), the greater Milwaukee area, and the State of Wisconsin. Its services include the following:

- **The Greater Milwaukee Survey** – semiannual cost-shared survey of public opinion in the Milwaukee metropolitan area.
- **The Wisconsin Poll** – semiannual cost-shared survey of public opinion in the State of Wisconsin.
- **Monitoring Wisconsin** – quarterly review of the Wisconsin economy. It includes an analysis of a prominent sector of the economy, forecasts by sector using the latest techniques, and reports by UWM faculty on their Wisconsin-based research.
- **Survey Research** – survey research, program evaluation, needs assessment, policy research.
- **Econometric Research** – economic impact studies, economic forecasting.
- **Data Archive**—US Census Data, ICPSR data, economic data, demographic data.

In addition, the ISPR can help meet your organization's survey needs by providing the following services:

- **Proposal Assistance** – The ISPR can aid in preparing survey cost estimates and the writing of research proposals.
- **Sampling** – The ISPR can help you to choose the proper sampling frames for surveys that your organization conducts.
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- **Statistical Analysis** – If your organization has a survey that requires special statistical analysis, ISPR staff are trained in the latest computer software and statistical techniques.

For more information, please contact Professor Swarnjit S. Arora, Director of ISPR, by email at ssa2@csd.uwm.edu or at 1.414.229.5313. Visit us on the web at http://www.uwm.edu/Dept/ISPR/.

Institute for Survey & Policy Research
Bolton Hall 874
PO Box 413
Milwaukee, WI 53201-0413

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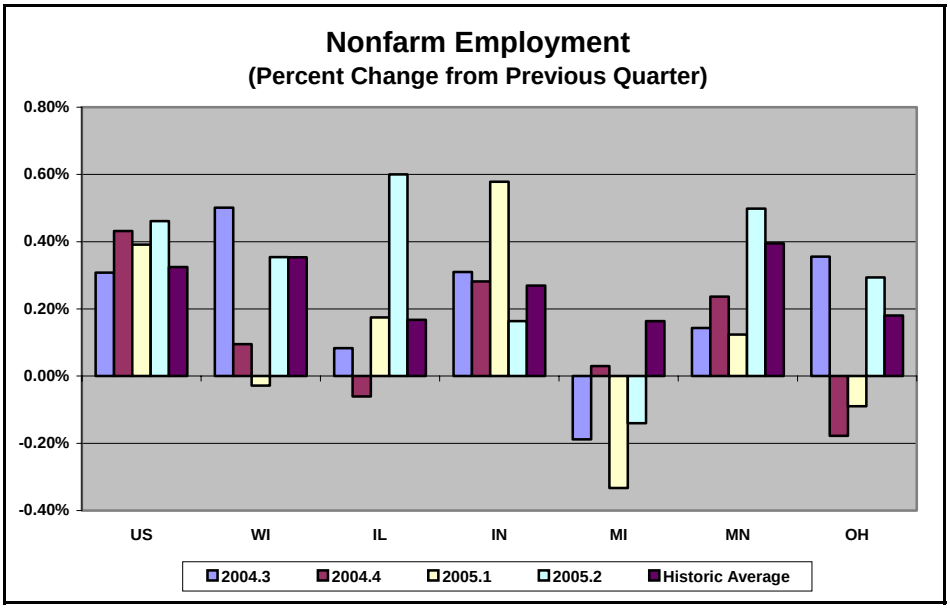
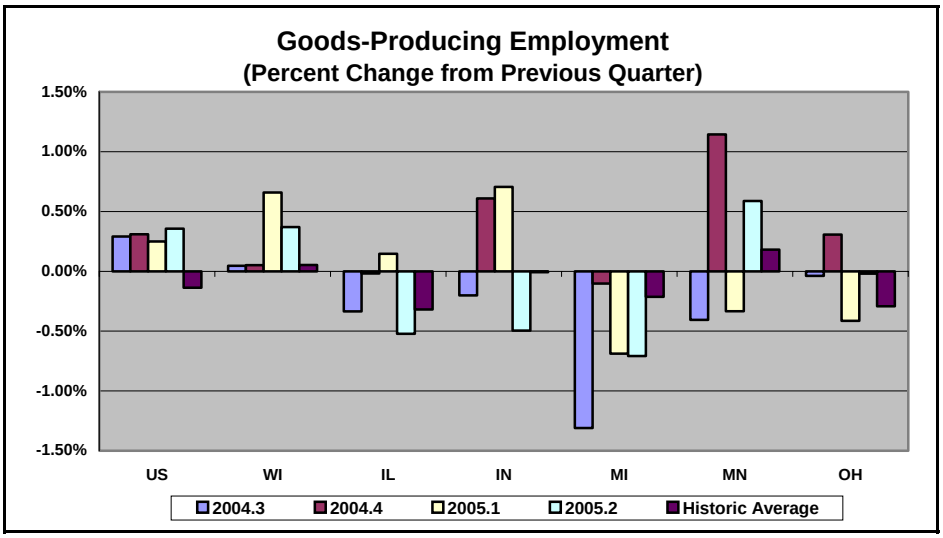


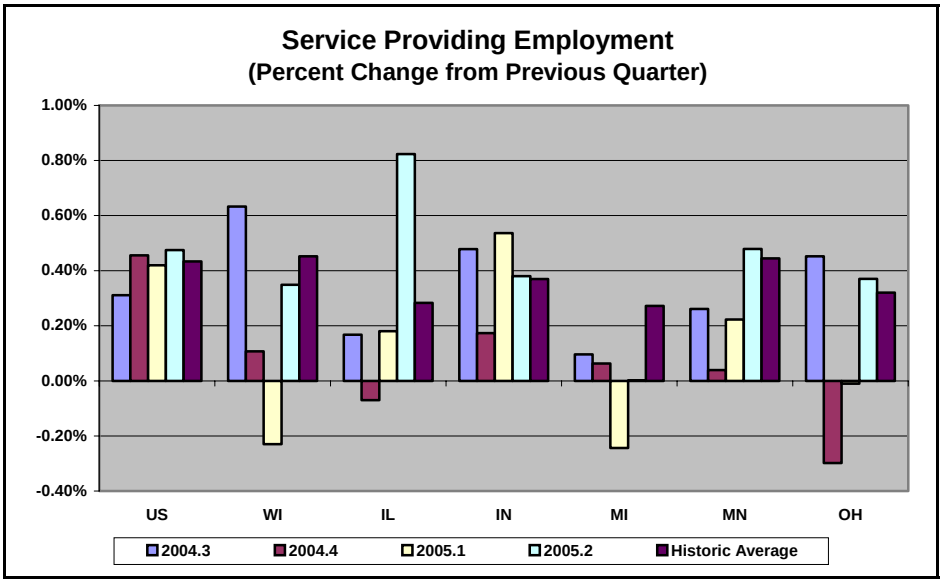
Seasonally-Adjusted, Non-farm Employment (Thousands)

Quarter	WI	US
2004.4	2,815.8	132,301.7
2005.1	2,815.0	132,813.7
2005.2	2,825.0	133,429.3
2005.3 (forecast)	2,831.9	133,856.1
Average (1990-present)	2,618.8	121,833.3



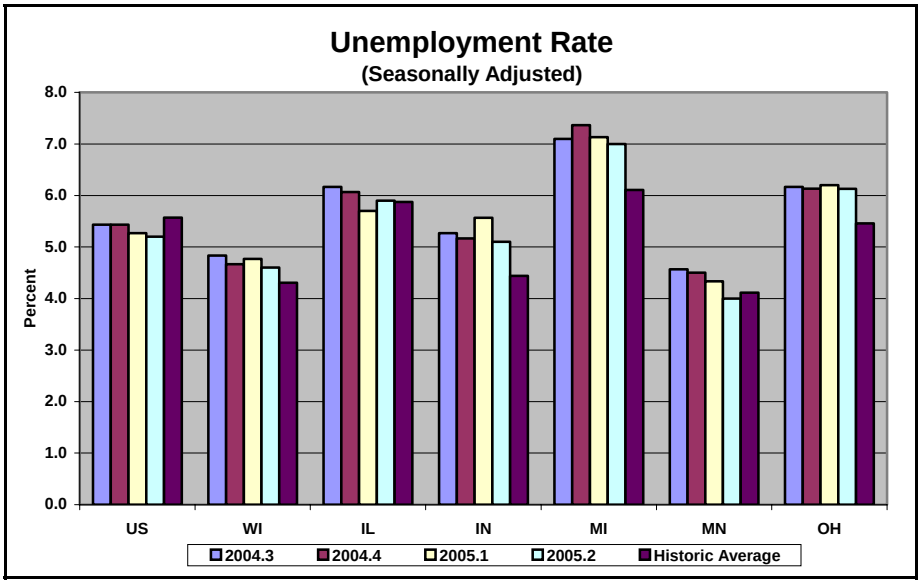
Seasonally-Adjusted, Goods-Producing Employment (Thousands)

Quarter	WI	US
2004.4	633.0	22,000.0
2005.1	637.2	22,055.0
2005.2	639.6	22,134.0
2005.3 (forecast)	641.3	22,182.9
Average (1990-present)	660.7	23,129.3



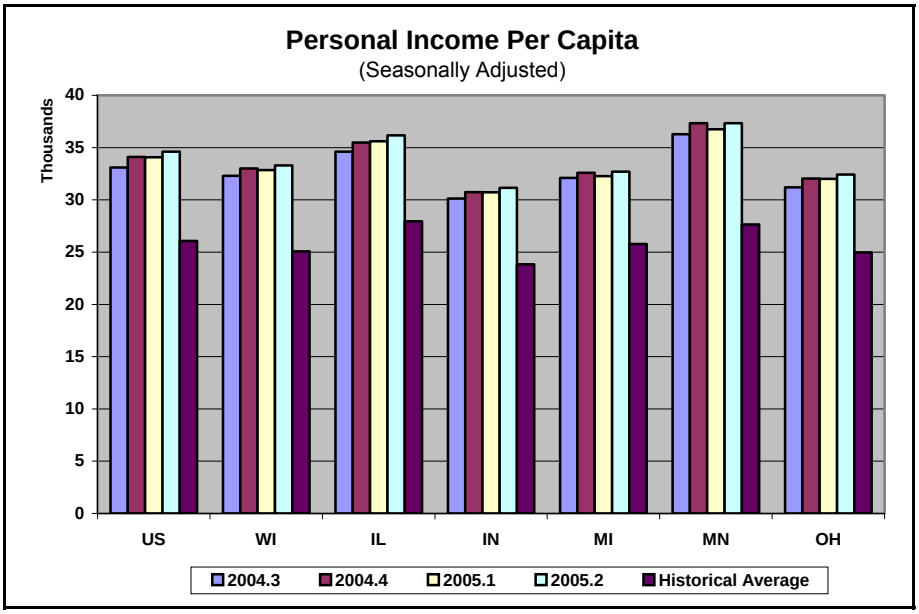
Seasonally-Adjusted, Service-Providing Employment (Thousands)

Quarter	WI	US
2004.4	2,182.8	110,301.7
2005.1	2,177.8	110,766.7
2005.2	2,185.4	111,295.3
2005.3 (forecast)	2,194.6	111,650.8
Average (1990-present)	1,958.1	98,704.1



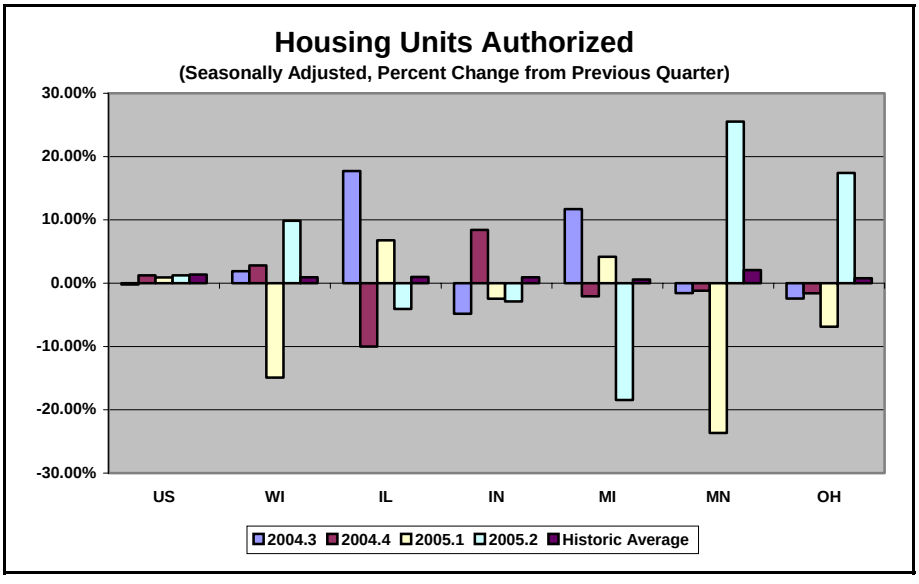
Unemployment Rate
Seasonally-Adjusted

Quarter	WI	US
2004.4	4.7	5.4
2005.1	4.8	5.3
2005.2	4.6	5.2
2005.3 (forecast)	4.5	5.2
Average (1990-present)	4.3	5.6



Per Capita Personal Income Seasonally-Adjusted

Quarter	WI	US
2004.4	$33,002	$34,105
2005.1	$32,849	$34,081
2005.2	$33,294	$34,605
2005.3 (forecast)	$33,425	$34,839
Average (1990-present)	$25,068	$26,068



Housing Units Authorized, Seasonally-Adjusted (Thousands)

Quarter	WI	US
2004.4	3.2	172,372
2005.1	2.9	173,923
2005.2	3.1	176,089
2005.3 (forecast)	3.1	170,820
Average (1995-present)	3.1	138,582