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A minimalist picture

Outside the controversy of employment effects of higher minimum wages, the population of low-wage workers and jobs is changing in subtle ways

By RONALD A. WIRTZ
Editor

Minimum wage has become a hot-button policy debate this year, the result of numerous factors, including increased attention over income inequality, slow job growth since the recession and inflation's erosion of the minimum wage's purchasing power over time.

The issue gained greater salience at the federal level when President Barack Obama proposed a \$10.10 minimum wage in his State of the Union speech in January. While that debate goes on at the nation's Capitol, many states have leapt into the fray, either passing or at least considering a higher minimum wage that supersedes the current federal minimum. In the Ninth District, Minnesota passed a new minimum wage of \$9.50 an hour this spring and included provisions for annual cost-of-living increases.

Much of the debate over minimum wages has focused on whether and to what extent higher minimum wages will affect current workers, their employers and overall employment. It's turned into a polemical fight with many employers arguing that a minimum wage increase would cost jobs and others, such as labor groups, countering that it would help create jobs rather than kill them.

What's not often discussed is the nature of minimum-wage labor—who has jobs at the bottom of the pay scale and how their participation in the workforce has evolved over time in response to economic growth (and decline) and changes in the minimum wage.

In this broader context, the evolution of minimum wage work and pay has seen both considerable and very little change. For example, the number of workers earning minimum wage spiked during and immediately after the Great Recession, but has been falling of late. From a historical standpoint, since 1980, the number of minimum wage workers has stair-stepped its way lower, rising during recessions and when the minimum wage has been raised. But the long-term trend has been downward.

The purchasing power of the minimum wage also receives a lot of attention. Over the

Continued on page 2

Among minimum wage workers in Minnesota in 2013 ...

60%
Women



35%
Teenagers



20%
Married



58%
Some college



72%
Work part time



20%
Below poverty



47%
Work @ eating/
drinking estab.



33%
Receive tips



35%
Rural



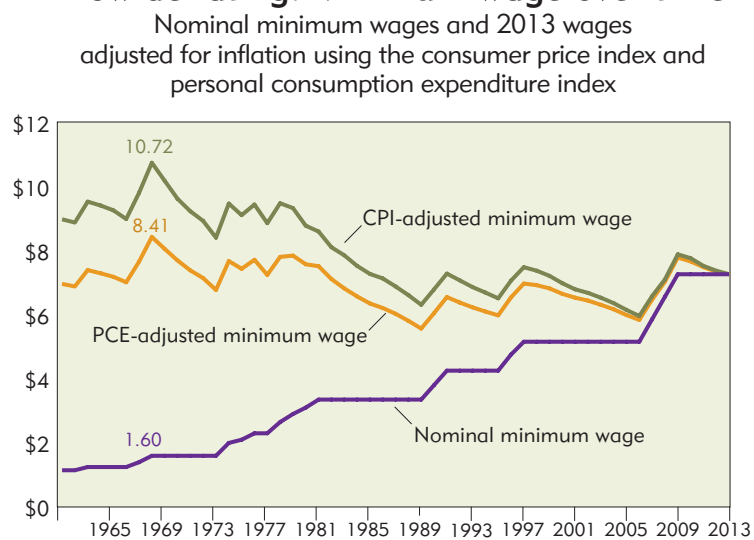
Source: Minnesota Department of Labor and Industry

Among all hourly workers,
% earning minimum wage or less

US 4.3%  ND 3.2%

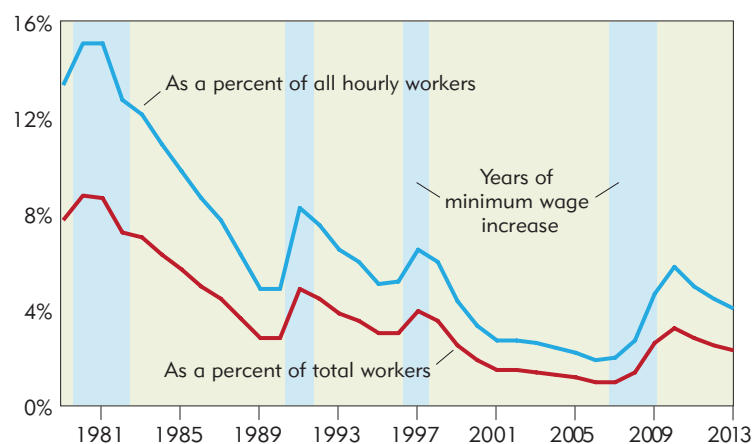
Source: Bureau of Labor Statistics

Chart 1
How deflating: Minimum wage over time



Source: U.S. Department of Labor, Bureau of Economic Analysis

Chart 2
A downward shift
U.S. hourly workers earning at or below minimum wage



Sources: Bureau of Labor Statistics, Bureau of Economic Analysis

Minimum wage from page 1

past half-century, there have been some minor differences in the broad trend over time depending on the measure of inflation that is employed. The demographics of minimum wage workers have also shifted in some cases, but hardly at all in others. The types of jobs they hold remain largely unchanged.

There are widespread efforts at the federal and state level to significantly raise minimum wages upward of \$10 an hour. If these efforts are successful, the fraction of workers affected by such an increase would exceed the fraction of minimum wage workers of the early 1980s—when the share was much higher—in large part because this new, higher minimum wage would

be notably above the inflation-adjusted minimum wage paid to workers back then.

Minimum wage, \$1.01

The minimum wage has a relatively long history in the United States, first put in place by Congress in 1938 at 25 cents an hour. It has been raised a total of 22 times since then; many of those were incremental increases as part of a single, larger increase implemented in phases. For example, the most recent federal increase in the minimum wage—from \$5.15 to \$7.25, approved in 2007—was implemented in annual increments starting at \$5.85, to \$6.55 a year later and finally to \$7.25 in 2009.

Some states set their own, differ-

ent minimum wage. A total of 21 states (including Michigan, Minnesota and Montana) and the District of Columbia have minimum wages above the federal minimum wage, according to the U.S. Department of Labor. In May, Michigan raised its minimum wage to \$9.25 an hour. Montana’s minimum was raised this year to \$7.90 thanks to an automatic cost-of-living adjustment, a trigger which only a handful of states have.

A lot of attention gets paid to the long-term, negative effects that inflation has on the purchasing power of the minimum wage. This wage erosion is a central reason for periodic increases. But whether raises have been large and frequent enough to retain the purchasing power of the minimum wage depends on which measure of inflation is used to adjust wages.

Most analyses use the common consumer price index, which shows the value of the minimum wage peaking above \$10 an hour in the late 1960s (when it was \$1.60 in nominal terms, see Chart 1). But the CPI is widely believed to overstate inflation, and many economists use the personal consumption expenditures (PCE) deflator to adjust wages over time.

Such a matter might seem trivial, but it becomes more important in the long term. When wages are adjusted using the PCE, the oft-cited, higher minimum wages of the 1960s and 1970s become less so. Over the past half century, PCE-adjusted minimum wages have remained fairly constant, dropping from the 1960s through 1989, but rising since then.

Even PCE-adjusted wages, however, show that minimum wage workers haven’t been making any progress in terms of earnings. But when govern-

ment hasn’t adjusted minimum wages upward, the job market has taken the matter into its own hands, with workers either leaving minimum wage jobs for higher-paying ones or employers increasing wages above the minimum, evident in the long-term decline of total workers receiving minimum or below-minimum wages (see Charts 2 and 3).

In 1980, there were 7.7 million workers earning the minimum wage of \$3.10 (\$7.56 in 2013 PCE-adjusted dollars). That represented 15 percent of all hourly workers and more than 8 percent of total employment. Since then, the number of workers earning minimum wage has fallen, and the share of total employment consisting of minimum wage workers has fallen over time as well.

Their numbers pulse up on occasion, which typically comes from a recession, an increase in the minimum wage or both. That was particularly the case during the last recession. Coupled with minimum wage increases from 2007 to 2009, the national share of minimum wage hourly workers more than doubled to 6 percent, or about 4.4 million.

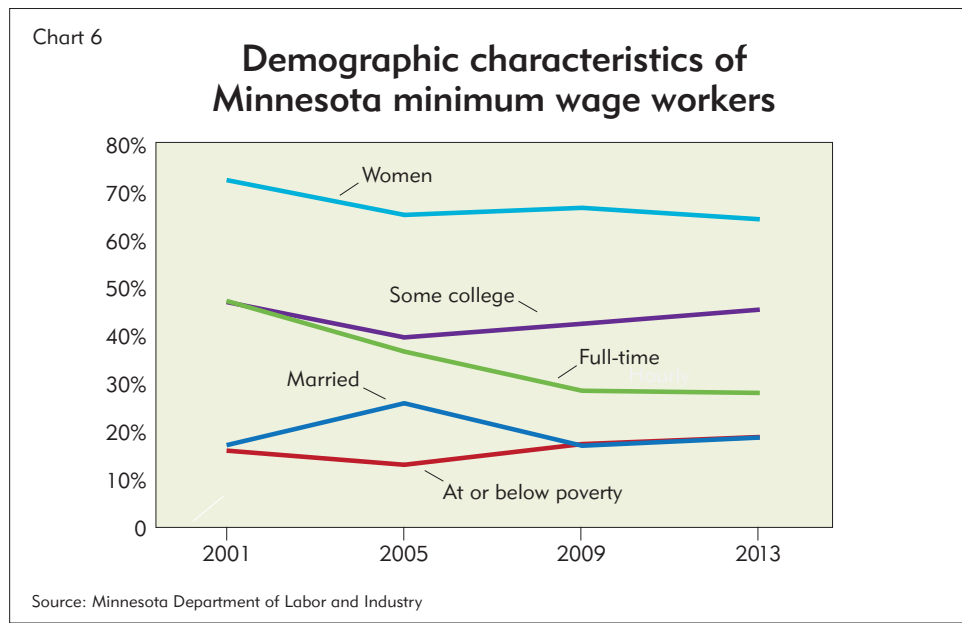
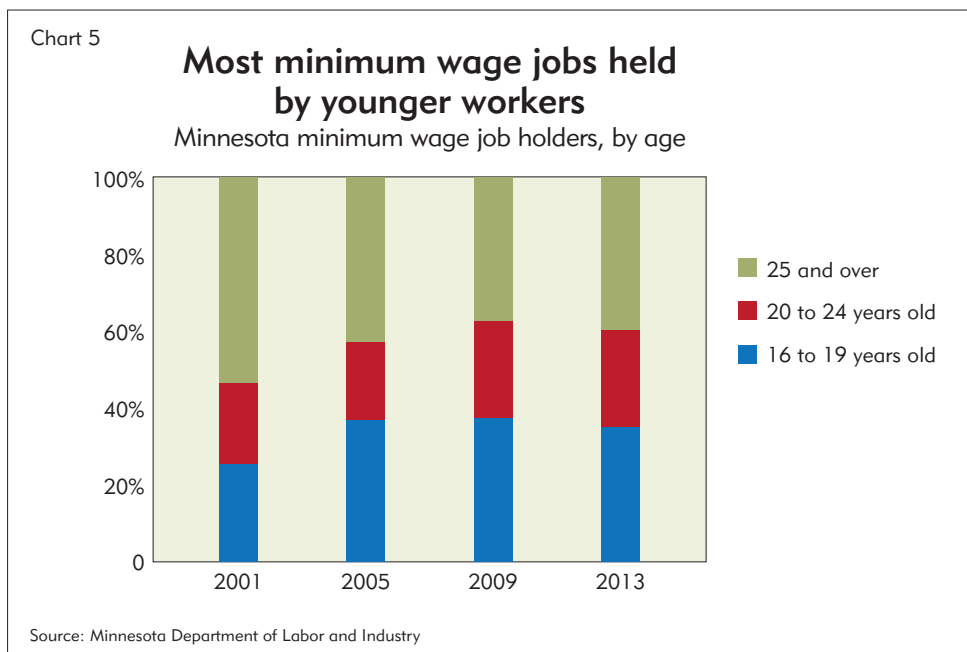
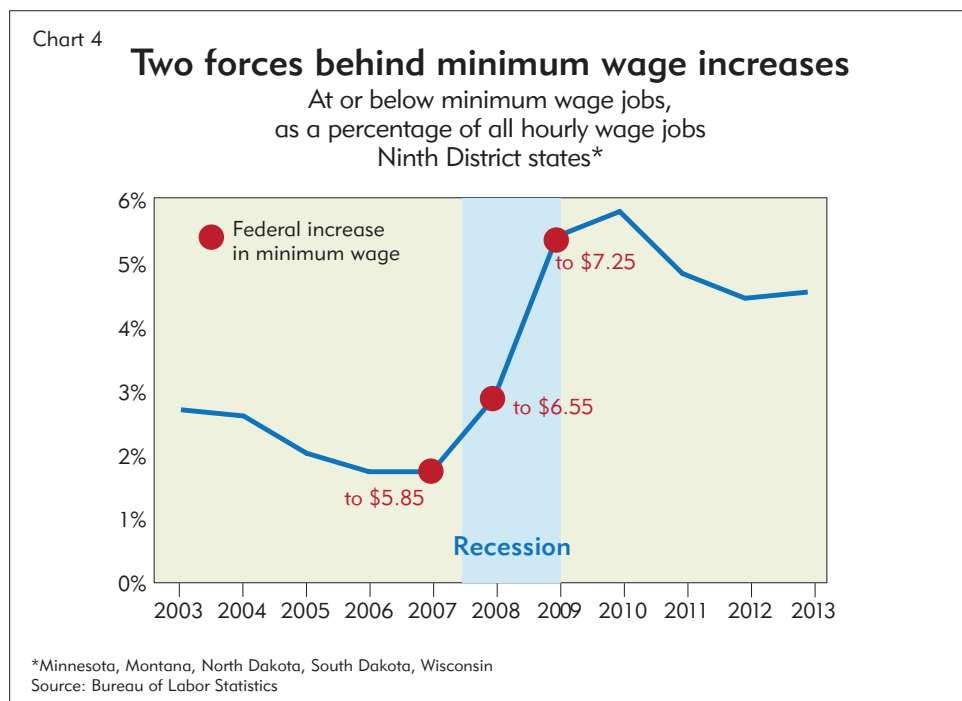
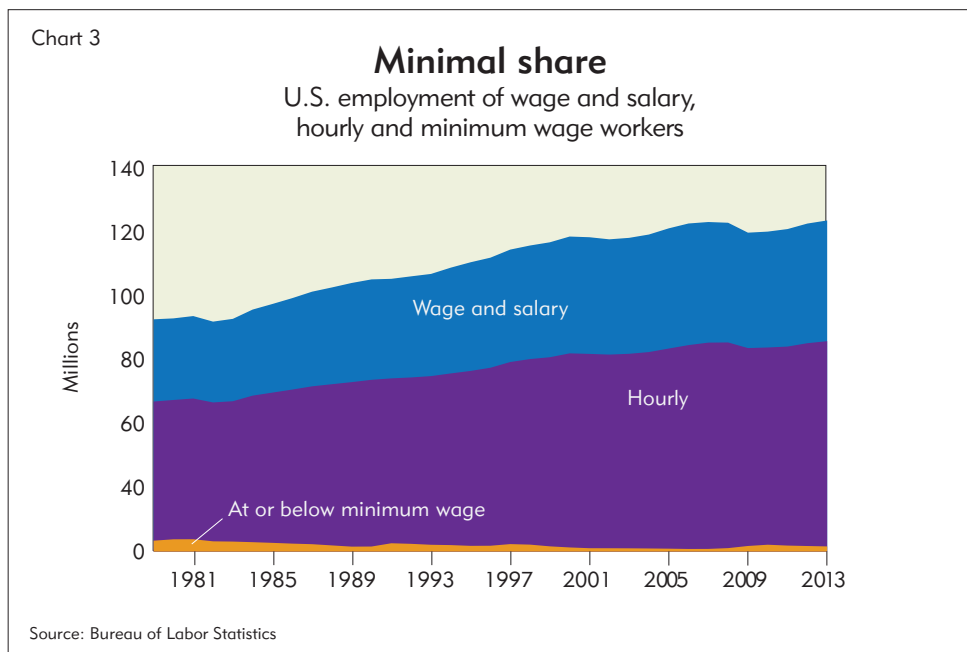
The same general arc was traced in the Ninth District (with some variations and caveats; for example, state-level figures before 2001 were unavailable). The share of minimum wage workers across five district states slid as low as 1.6 percent in 2006 (about 65,000 workers), but would later spike to almost 6 percent by 2010, to more than 225,000 workers (see Chart 4). (Methodological issues also suggest that these state-level figures might underestimate actual levels. See sidebar on page 5 for discussion.)

Even North Dakota—with very strong economic and job growth—saw largely

Among all workers,
% earning minimum wage or less

US 2.6%  ND 1.6%

Source: Bureau of Labor Statistics



the same trend in minimum wage workers as other district states during and after the recession. At 1.6 percent in 2013, it has the lowest proportion of minimum wage jobs as a percentage of hourly employment in the district (Minnesota is second at 2.3 percent). But in 2009, North Dakota had reached 6 percent.

What's changed?

Reasonably good data on minimum wage jobs and workers exist in single-year snapshots. For example, in 2013, women were more likely than men to have minimum wage jobs; a majority of minimum wage workers are under the age of 25 and have not been to college. Most are single and hold a part-time job.

Minnesota is one of few states that

offer any comprehensive data on minimum wage workers over time. These data suggest that some characteristics of minimum wage workers and jobs are changing, but others not at all.

For example, in 2001, the majority of minimum wage jobs (53 percent) in Minnesota were held by those 25 years or older, but that had fallen to about 40 percent by 2013, according to figures from the state Department of Labor and Industry (see Chart 5). This trend in higher percentages of young people holding minimum wage jobs runs counter to their share of total employment, which has been dropping.

Other demographic changes in Minnesota were more subtle. The percentage of women with minimum wage jobs has fallen from 67 percent to 60 percent

over this period, perhaps the result of increased education levels among women. Several commonly referenced traits of minimum wage workers (marriage, poverty, college participation) have held mostly steady in Minnesota (see Chart 6). But one notable outlier is the share of minimum wage workers at full-time jobs, which fell by more than one-third, from 45 percent in 2001 to 28 percent this past year.

Rising tide for higher minimum

While Congress debates a higher federal minimum wage, many states and even cities are leapfrogging the matter by passing laws of their own to boost

minimum wages.

Since last fall, California, Connecticut, Hawaii and Maryland have all passed minimum wage hikes to \$10 or \$10.10 an hour, though all will take at least two years to be phased in; the earliest will be in California, at \$10 an hour beginning in January 2016. The District of Columbia is doing that one better by going to \$11.50 an hour in July 2016.

Minnesota's increase to \$9.50 an hour will be phased in with three annual bumps (the first, to \$8 an hour, is slated for August) and fully implemented by July 2016. Starting in 2018, the state will also adjust the minimum wage on an annual basis using the implicit price deflator to gauge the rate of inflation. The inflationary increase is capped at 2.5 percent per year.

Percent of food-prep & serving jobs that pay < \$9.50

MT 68% ND 59%

Source: Bureau of Labor Statistics



Minimum wage from page 3

Not all minimum wage jobs are created equal

Federal regulations include exemptions that allow employers to pay certain types of workers less than the minimum wage, including youth and farm workers. But the largest population is workers at restaurants and bars who also receive tips. Federal law allows employers to pay these workers \$2.13 an hour, though states are allowed to set their own rules. Minnesota and Montana are two of just seven states that do not allow employers to pay tipped workers less than minimum wage.

Minimum wages in Ninth District states

	Minimum wage	Cost of living adjustment?	State minimum tied to federal minimum	Minimum wage for tipped workers ²	Tip credit against minimum wage ⁵
Minnesota	\$ 9.50 ¹	Yes	No	\$ 7.25	n/a
Montana	\$ 7.90	Yes	No	\$ 7.90 ³	n/a
North Dakota	\$ 7.25	No	No	\$ 4.86	\$ 2.39 ⁶
South Dakota	\$ 7.25	No	No	\$ 2.13	\$ 5.13 ⁷
Wisconsin	\$ 7.25	No	No	\$ 2.33 ⁴	\$ 4.92
United States	\$ 7.25	14 states	13 states	\$ 2.13	\$ 5.13

¹ Passed in 2014, fully implemented by 2016.

² Federal definition — must earn \$30 in tips or commissions in a month, though some states do not specify the amount.

³ In Montana, establishments with less than \$110,000 in receipts are allowed to pay \$4.00/hour.

⁴ In Wisconsin, minimum wage for tipped workers under 20 is \$2.13.

⁵ Tip credit against minimum wage is the amount employers are allowed to claim against payroll for tax purposes.

⁶ In North Dakota, tip credit is 33 percent of prevailing minimum wage.

⁷ In South Dakota, the listed maximum tip credit includes allowable amount for tips, food and lodging combined, not tips alone.

Source: U.S. Department of Labor

Many states, even those with minimums higher than the federal level, are not standing pat. The National Conference of State Legislatures reports that 34 states have considered or are currently considering increases to the state minimum wage. The National Employment Law Project estimates that 120 cities nationwide have enacted rules requiring higher wages for businesses, though many target only businesses that receive public contracts.

In South Dakota, a measure to increase the state's minimum wage is on the November 2014 ballot as an initiated state statute. If passed by the electorate, the measure would automatically increase the minimum wage from \$7.25 per hour to \$8.50 beginning Jan. 1, 2015, and would include an annual cost-of-living adjustment. The measure also would set the wage of tipped workers at half that of the minimum wage, raising that hourly pay from \$2.13 to \$4.25.

These widespread efforts have given rise to more research on the effect of

higher minimums on workforce earnings. For example, a report earlier this year by the Congressional Budget Office found that a \$10.10 minimum would push up earnings for more than 16 million workers—about 12 percent of all job holders. A December study by the Economic Policy Institute came to a similar conclusion. (Studies like the CBO's also discuss potential negative effects on total employment; the CBO, for example, estimates that a \$10.10 minimum would lower total employment by a half million workers. A full analysis of these employment trade-offs is outside the scope of this article.)

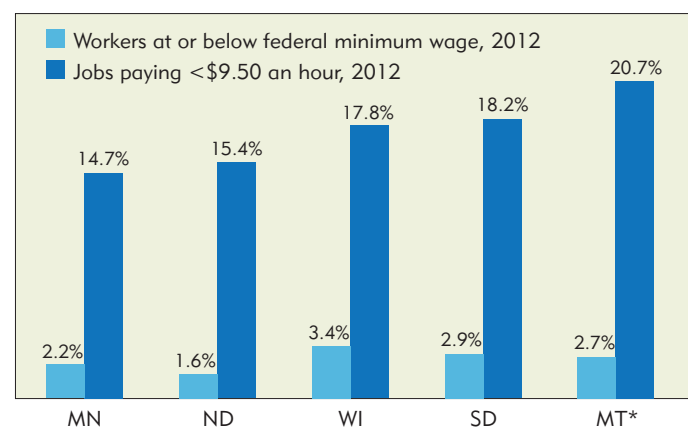
The more, the merrier?

Other state-level data suggest similar earnings effects on low-wage workers. A December study by the Minnesota Department of Employment and Economic Development investigated the number of jobs paying less than \$9.50 an hour using the federal Occupational Employment

Chart 7

Not a lot at minimum wage, but many just above it

Low-wage workers in Ninth District states, as a percent of total employment



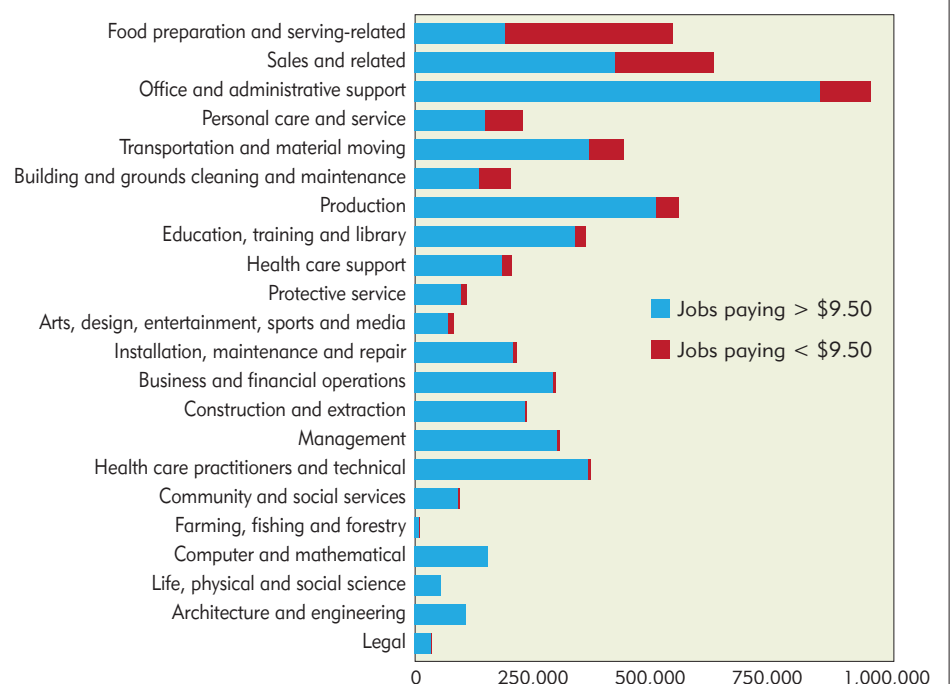
*Montana's percentage of minimum wage workers is calculated separately from state (not federal) data given the state's minimum wage in 2013 of \$7.80. BLS estimates for workers at or below minimum wage at the state level are lower than estimates made by some state labor offices (e.g., Minnesota). However, most states do not publish minimum wage worker estimates, so BLS data for states were used for consistency.

Sources: Bureau of Labor Statistics for minimum wage estimates; state labor information offices for jobs paying < \$9.50

Chart 8

Food, retail and office jobs dominate low-wage jobs

Employment by occupation and wage
Ninth District states* (cumulative, 2012)



*Minnesota, Montana, North Dakota, South Dakota, Wisconsin

Source: Special tabulations of the BLS Occupational Employment Statistics by labor market information offices in each Ninth District state

Survey (OES), which is administered by state labor agencies. It found 388,000 such jobs in Minnesota in the first quarter 2013, or 14.7 percent of total employment. It also found considerable regional variation, from a low of 12.5 percent of total employment in the Twin Cities met-

ro to almost 20 percent in northeast and southwest regions of the state.

At the request of the *fedgazette*, state labor information offices in other district states provided similar state-level OES data on jobs paying less than \$9.50. Across the district in 2012, the

Percent of sales and related
jobs that pay < \$9.50

WI 35%



MN 31%

Source:
Bureau of
Labor Statistics

Jobs paying minimum wage or less tend to be concentrated in occupations such as food preparation and serving, retail, office administration and personal care.

share of these jobs as a percentage of total employment ranged from Minnesota's low of 14.7 percent to a high of 20.7 percent in Montana (see Chart 7). It shows that while there are comparatively few workers at minimum wage or less, there is a considerable population just above that wage.

In Montana, for example, a little less than 3 percent of all workers earn the minimum wage there (\$7.80 an hour in 2013). But almost 21 percent earn less than \$9.50 an hour, and the proportion grows to almost one-third of workers paid by the hour. This is likely due, in part, to the state having a higher proportion of small businesses. Almost one of five jobs in Montana is with a company having fewer than 10 employees—double the rate in Minnesota—and small companies typically pay less than larger ones.

Jobs paying minimum wage or less tend to be concentrated in occupations such as food preparation and serving, retail, office administration and personal care. Those concentrations also hold for jobs earning less than \$9.50, according to OES data from district states (see Chart 8).

Should all district states hypothetically mirror Minnesota in upping their minimum wage to \$9.50, roughly 1 million jobs would be affected (all other things equal). That's about 16 percent of total employment in district states, and almost double the fraction of jobs that were minimum wage jobs in the national economy in 1980. While a notable increase, it's largely the result of a minimum wage—at \$9.50—that would be substantially higher than the comparable PCE-adjusted wage in 1980, which was about \$7.50 an hour. **f**

The art of tracking low-wage jobs and workers

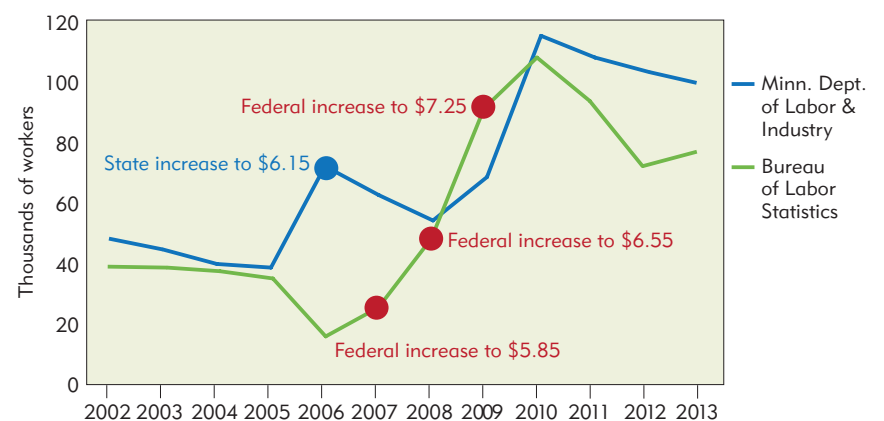
To those interested in general employment trends, federal and state agencies offer a wealth of data. But tracking minimum and near-minimum wage jobs and workers is less straightforward and comes with methodological trade-offs. The most comprehensive employment data—such as those from the federal Quarterly Census of Employment and Wages—typically focus on occupations or industry sectors, rather than wages. For data on wages (for either jobs or workers), one has to turn to federal sources that offer useful snapshots, but can introduce methodological caveats related to sampling and other matters.

For example, the federal Bureau of Labor Statistics generates an annual report on the number of workers earning at- or below-minimum wages, which includes state-level estimates, from the Current Population Survey, a monthly survey of households conducted by the U.S. Census Bureau. These figures apply the federal minimum wage when estimating job numbers even where higher or lower minimum wages are in force at the state level. This can create measurements that do not reflect actual levels for a given state, particularly in cases where a state's minimum wage is higher than the federal minimum.

For example, Montana's minimum wage has regularly (but not universally) exceeded the federal minimum since 2007 and currently stands at \$7.90. As a result, BLS estimates of minimum wage workers in Montana systematically undercount minimum wage workers in the state because (by law, save for certain exemptions) most workers had to be paid more in Montana than the federal minimum over most of this period. In 2012, for example, the BLS estimated that Montana had about 4,000 workers at or below the federal minimum wage of \$7.25; Montana Department of Labor sources identified 12,300 workers below the state minimum wage at the time of \$7.65.

Minnesota offers more evidence that counting minimum wage jobs might be more art than science. Its minimum wage was temporarily higher, at \$6.15, from 2006 to 2008, when the federal minimum reached \$6.55. Though the official

Two counts of minimum wage workers in Minnesota
One federal, one state-level



Sources: Minnesota Department of Labor and Industry; Bureau of Labor Statistics

Minnesota minimum was technically lower at this point, state law essentially tied wages to the federal minimum except for narrowly defined instances (for example, annual sales could not exceed \$625,000 and businesses could not engage in interstate commerce, which precludes the ability to accept credit card payments).

Yet even when Minnesota's effective minimum wage mirrored the nation's, counts of such workers by these separate federal and state data agencies have varied considerably, especially since 2011 (see chart).

Estimates of the number of jobs at or near \$10 an hour—a common target for new minimum wage efforts—offer other caveats. For example, in 2012 there were almost 1.1 million jobs paying less than \$9.50 an hour in Ninth District states, according to data from the Occupational Employment Survey, which covers all full-time and part-time wage and salary workers in nonfarm industries. These data were provided to the *fedgazette* from state labor information offices. OES data, however, are not comparable over time for methodological reasons.

The BLS also provided the *fedgazette* with unpublished, state-level estimates of the number of jobs below \$10. Despite the higher wage threshold, these estimates (taken from the CPS and, thus, a population sample) counted about 100,000 fewer low-wage jobs in district states in 2012.

—Ronald A. Wirtz

Pedal to the metal

Mining is on the upswing in the Ninth District, but prospects for long-term growth remain uncertain

By PHIL DAVIES
Senior Writer

The city of Hoyt Lakes, Minn., has experienced boom and bust in iron mining. Founded in the 1950s to house workers at the Erie Mining Co. taconite plant, the Iron Range community flourished with the industry; in the late 1970s, 20-odd businesses and a shopping mall catered to the needs of well-paid miners and their families.

Growth stopped and shifted abruptly into reverse in 2001, when LTV Steel Mining closed the plant—part of a painful contraction in the U.S. steel industry. The city lost 1,400 jobs and half its population as people sold their homes and moved away. Today, only two struggling retail businesses remain. “We have been hurting since 2001,” said Mayor Mark Skelton. “And then throw the recession on top of that. ... We did not weather the recession well.”

But since the Great Recession, mining has shown new signs of life on the eastern Iron Range. Four years ago, a mining start-up near Hoyt Lakes began producing high-purity iron nuggets for use in electric arc furnaces. More than 150 people, including a number of city residents, work at the Mesabi Nugget plant. And the area is seeing a new type of mining development, one that—if planned mines come to fruition—would bring massive investment and hundreds of new jobs.

Two large mines have been proposed to extract copper, nickel and other metals from billion-year-old bedrock underlying the forests between Hoyt Lakes and Ely. Together, the PolyMet and Twin Metals Minnesota projects represent \$3 billion in potential capital investment on the eastern Iron Range.

PolyMet Mining of Canada plans to develop an open pit mine east of Hoyt Lakes and process the ore in LTV's old facility, revamped for the purpose. PolyMet has said the project, in the environmental review stage, will employ up to 360 workers earning \$36 million annually in wages and benefits. The PolyMet and Twin Metals projects have prompted an outbreak of blue “We Support Mining” signs and banners outside businesses and homes in Hoyt Lakes and nearby Babbitt, Minn.

“It is huge for us,” Skelton said. “I can't put it any other way for you. Thir-

ty-six million a year in payroll just at PolyMet—that's awesome. What would that do for our area? An awful lot.” Skelton's enthusiasm is tempered by the knowledge that the PolyMet and Twin Metals (an early-stage proposal for a large underground mine southeast of Ely) projects may never be built. Both face opposition from environmental groups worried about acid runoff from mine workings.

More than a dozen other new hard rock mines are either under development or have been proposed in Ninth District states (see “Hard rock café,” page 7). Projects include a copper and nickel mine nearing completion in the Upper Peninsula of Michigan; a planned uranium mine in the Black Hills of South Dakota; and proposals to mine for copper, gold and silver in western Montana.

In addition, established taconite mines on the Iron Range have ramped up their production and employment. And Magnetation LLC, a firm that produces iron from discarded ore tailings, was preparing to build an iron concentrate plant near Coleraine, Minn.—the fourth developed on the Range since 2008.

Rising commodity prices since the early 2000s are the main impetus for this mining upsurge. Copper, for example, was trading in May at almost three times the price of the metal in 2003; before a recent downturn, the price of copper was even higher. Global demand for metals has been high, “and that's really been driven over the last decade and a half by the industrialization of the developing world,” said Patrick Barkey, director of the Bureau of Business and Economic Research at the University of Montana.

However, the spate of mining activity in the district doesn't necessarily presage long-term industry growth. The primary customer of iron mines, the U.S. steel industry, has shrunk in recent decades.

As for nonferrous mines, how many become going concerns depends on demand for metals in rapidly developing countries such as China and, in some cases, rapprochement between mining firms and their opponents. PolyMet and Twin Metals aren't the only mining projects in the district that are being resisted by environmental groups and area residents, including Indian tribal communities.

This aerial photo, taken June 15, 1955, by a Minneapolis newspaper photographer, shows the newly founded city of Hoyt Lakes, Minn., built to house workers at the Erie Mining Co. taconite plant.

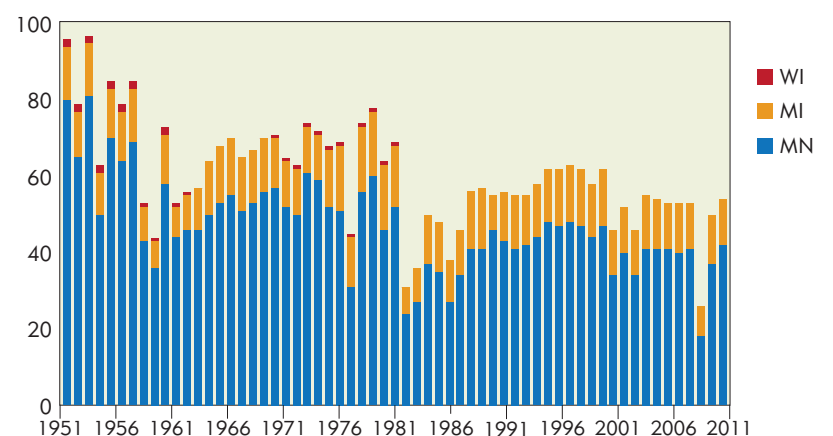


Minnesota Historical Society

Chart 1

A long fall for Ninth District iron production

Millions of metric tons of iron ore



Source: U.S. Geological Survey, Minerals Yearbooks

Between a rock and a hard place

Wresting metals from the earth is less important economically in the district than it was a generation ago. Over the past half century, production of most types of metals has declined in district states with significant hard mineral wealth (every state except oil-rich North Dakota). The output of district iron mines, for example, has fallen by more than 40 percent since the early 1950s (see Chart 1), even as U.S. steel

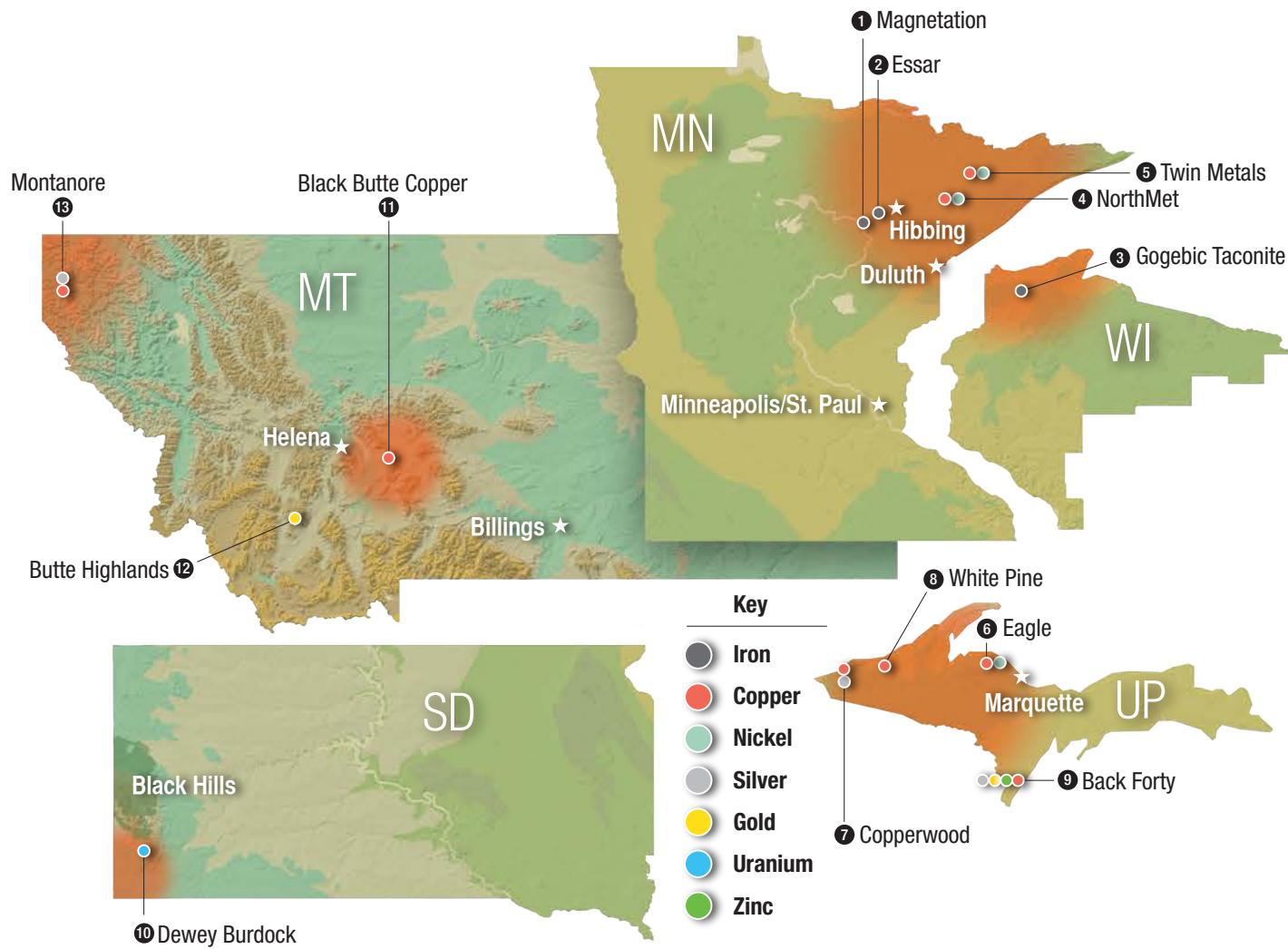
consumption has increased.

Comprehensive mine production data from the U.S. Geological Survey (USGS) are lacking for mining of nonferrous metals such as copper, gold, silver and platinum. But available numbers on production and mine capacity tell a similar story of overall decline. Copper mining petered out in the U.P. in the 1990s, ending 150 years of production. Montana's output of the semiprecious metal peaked at roughly the same time and has since dropped. Production of gold and silver in Montana and South

Continued on page 8

Hard rock café

New metal mining development in the Ninth District



PROJECT	OWNER/DEVELOPER	DESCRIPTION	STATUS	CAPITAL COST
IRON ORE				
1 Magnetation waste ore reclamation plant	Magnetation, LLC Grand Rapids, Minn.	Facility near Coleraine, Minn., will supply iron concentrate to a steel plant in Mexico and a Magnetation pellet plant in Indiana.	Construction design; opening slated for early 2015	\$300 million including pellet plant
2 Essar taconite plant	Essar Group, India	Open-pit mine and iron concentrating and pelletizing plant in Nashauk, Minn., on site of disused taconite plant.	Construction suspended	\$1.7 billion
3 Gogebic Taconite Mine	Cline Resource and Development, W.Va.	Large open-pit iron mine and processing facility in Penokee Hills near Mellen, Wis. Would be the Badger State's first active iron mine in 30 years.	Conducting test drilling	\$1.5 billion
NONFERROUS METALS				
4 NorthMet	PolyMet Mining, Canada	Open-pit copper and nickel mine and processing plant near Hoyt Lakes, Minn.	In environmental review	\$475 million
5 Twin Metals	Twin Metals Minnesota LLC	Large underground copper and nickel mine southeast of Ely, Minn. Backed by Antofagasta PLC, a Chilean mining conglomerate.	Prefeasibility drilling and assaying	Up to \$2 billion
6 Eagle Mine	Lundin Mining, Canada	Underground mine 25 miles west of Marquette, Mich. Ore containing nickel, copper and precious metals would be trucked 65 miles to a former taconite facility for processing.	Under construction, scheduled opening end of 2014	\$725 million
7 Copperwood Mine	Highland Copper Co., Canada	Copper and silver mine near the Porcupine Mountains in Gogebic County. Highland acquired the partially developed site from another firm this year and plans to bring it into production.	"Shovel ready"; has received all major permits	Undisclosed
8 White Pine Mine	Highland Copper Co., Canada	Highland also recently purchased this former copper mine in neighboring Ontonagon County. The last operating copper mine in the U.P. before it closed in 1995.	Exploratory drilling planned	Undisclosed
9 Back Forty Project	Aquila Resources, Canada	Open-pit copper, zinc, gold and silver mine in Menominee County, Mich.	Prefeasibility drilling and analysis	\$225 million
10 Dewey Burdock Mine	Powertech Uranium Corp., Canada	In situ uranium mine near Edgemont, S.D., on southwestern flank of Black Hills. Backed by a Hong Kong-based investment group that recently merged with Powertech.	Moving through permitting process	\$54 million
11 Black Butte Copper Mine	Tintina Resources, Canada	Underground copper mine near White Sulphur Springs, Mont. Estimated production of 62 million pounds over 11-year mine life.	Conducting exploratory drilling	\$230 million
12 Butte Highlands Gold Project	ISR Capital, Idaho	Underground gold mine 15 miles south of Butte, Mont., on a site that was first mined in the 1800s.	Under construction, awaiting operating permit	Undisclosed
13 Montanore Silver-Copper Project	Mines Management, Washington State	Mine south of Libby, Mont., containing an estimated 60 million lbs. of copper and 8 million oz. of silver.	In environmental review; delays due to legal disputes	Undisclosed

Source: Mining firms, regulatory agencies and media reports

Metal mining from page 6

Dakota has fallen sharply from a high in the early 1990s. As hard rock mines have closed or cut production, employment has also fallen (see Chart 2).

At the same time, mining productivity has increased due to mine consolidation, advances in technology and changes in work practices. For example, research by Minneapolis Fed economist James Schmitz has shown that a relaxation of work rules due to foreign competition spurred efficiency gains in the early 1980s. This allowed employment in iron mines—which account for the bulk of metal mining employment in the district—to fall proportionately more than production.

Today, in every district state, metal mining jobs make up just a fraction of 1 percent of total employment. But mining remains economically significant in certain areas of the district, such as Minnesota's Iron Range, the western U.P., and southwestern Montana. In 2012, Iron Range mines—which produce 80 percent of the iron used by U.S. blast furnaces to make steel—employed over 4,300 people in a part of the state with little other major industry.

In the U.P.'s Marquette County, two large iron mines operated by Cliffs Natural Resources employ about 1,600 workers. And in the small city of Butte, Mont., about 350 people work at Montana Resources, a copper, silver and molybdenum mine. Mining jobs pay well; in 2013, metal miners nationwide earned an average of \$70,000 annually.

Wages and other spending by mining companies flow to local businesses and households. A 2012 study by economists at the University of Minnesota-Duluth estimated that iron mining contributed \$1.1 billion in 2010 to the economy of the seven-county Minnesota Arrowhead region and neighboring Douglas County, Wis. Additional spending and jobs came from firms that supply mines with goods and services such as rail transport, electrical power, and equipment maintenance and repair.

Mining firms also pay taxes—a crucial contribution to government services in rural areas with small tax bases. In Minnesota, revenue from a tax on taconite production goes to local governments and school districts in areas where iron ore is extracted and was mined in the past. In 2013, Iron Range cities and townships received \$13.9 million in production tax revenues, according to the state Department of Revenue.

Ranching is the main livelihood in sparsely populated Stillwater County in south-central Montana. By far, the larg-

est nonfarm employer is the Stillwater Mining Co., owner of the country's only palladium and platinum mines. In 2013, the county's share of state taxes on mining production and sales, combined with county property taxes, amounted to \$8.5 million—43 percent of total county tax revenues.

“As much iron ore as they can produce”

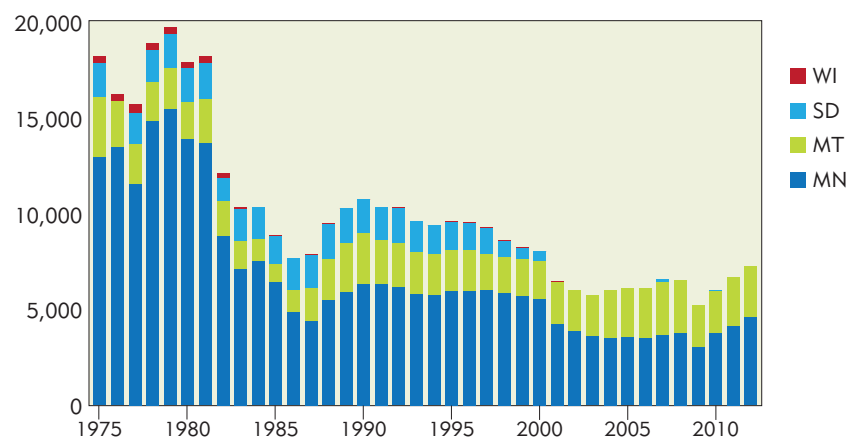
In 2009, Iron Range mines slashed production in response to plummeting demand for iron ore from U.S. steelmakers. Steel and iron ore prices fell, and many mine workers were furloughed. Cliffs' Empire and Tilden mines in the U.P. also cut production. But since then, iron mining has enjoyed a mild resurgence in the district. Ore prices have rebounded, spurring increased production (see Chart 3).

Data from the USGS are available only through 2011, but more recent figures from the Minnesota Department of Revenue indicate that iron production continues to rise; the department estimated that state iron output this year will exceed 2013 production and reach the highest level since 2000.

Iron Range mines, most of which are wholly or partly owned by U.S. steel companies, have cranked up production to satisfy rising demand for motor vehicles, construction girders, household appliances and other goods made from steel. According to the World Steel Association, U.S. steel production in March increased 1 percent year over year. Steelmakers are calling upon mines “to provide as much iron ore as they can produce,” said Craig Pagel, executive director of the Iron Mining Association of Minnesota. “It's the general uptick in the economy, whether it's cars and trucks being purchased or homes that are starting to be built.” U.S. blast furnaces are also turning out more steel pipe used to drill wells in booming shale oil regions such as western North Dakota.

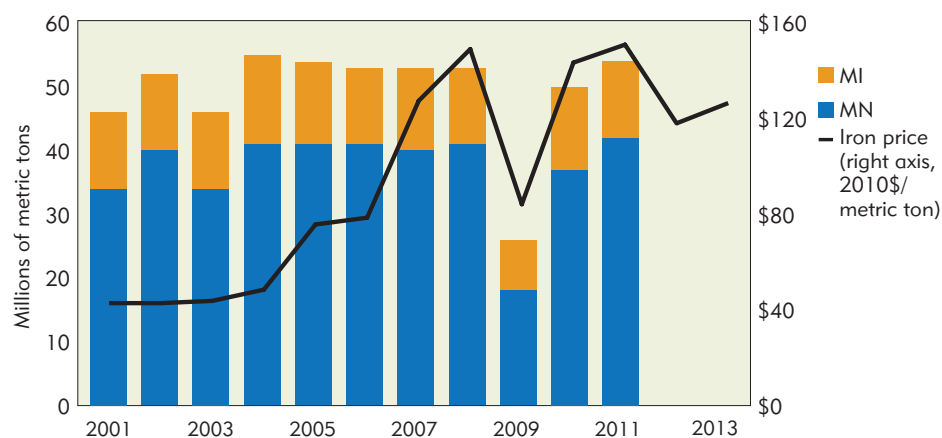
A number of mining companies are expanding their Range operations, either to exploit previously untouched taconite deposits or to process iron extracted from above-ground ore waste left over from previous mining. U.S. Steel's Minntac mine in Mountain Iron is carving out a 500-acre pit extension, a two-year project that has created 100 new jobs. And Cliffs plans to expand its Thunderbird Mine between Eveleth and Virginia, requiring the relocation of a

Chart 2

Fewer working at the mine
Employment* in district metal mining

* Standard Industrial Classification data through 2000
Source: Bureau of Labor Statistics

Chart 3

Iron on the rebound
Iron ore production and prices

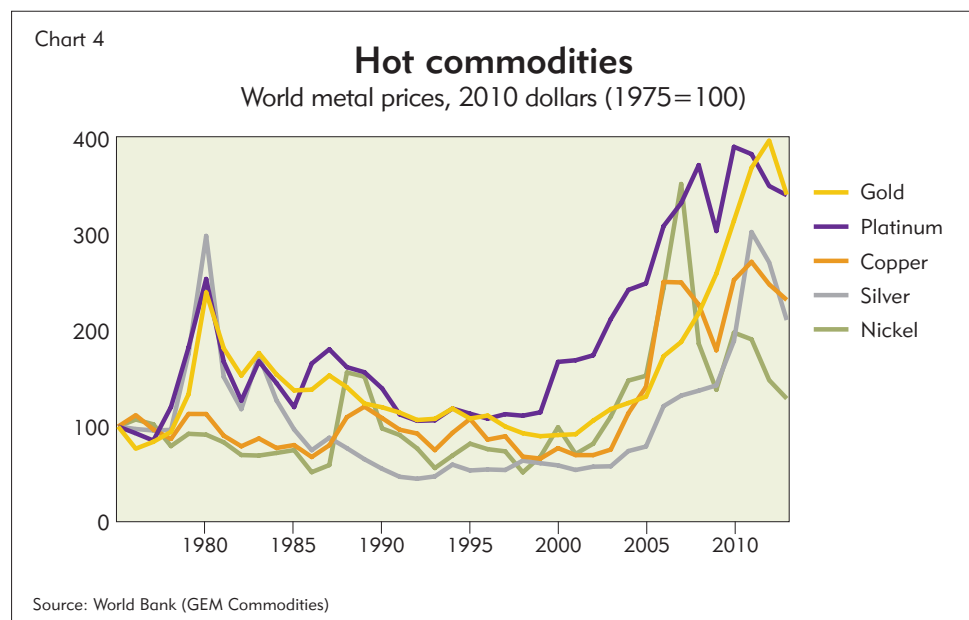
Sources: USGS Minerals Yearbooks, World Bank (GEM Commodities)

Iron Range mines, most of which are wholly or partly owned by U.S. steel companies, have cranked up production to satisfy rising demand for motor vehicles, construction girders, household appliances and other goods made from steel.

key stretch of U.S. Highway 53.

“Scram mining” is a new form of iron mining on the Range that exploits the abandoned tailings basins and ore stockpiles that have been part of the landscape for decades. Magnetation LLC of Nashwauk, Minn., one of two scram mining ventures in the state, was launched in 2011 with \$300 million in backing from AK Steel of Ohio.

Magnetation's two processing plants (a third on the Range is owned by sister company Mining Resources) in essence mine past investments in drilling, blasting and crushing by other mining firms. Powerful magnets draw remnant iron from a slurry of pulverized tailings and water to produce iron concentrate, the raw material for making pellets consumed by blast furnaces. “We're recycling—that's how we look at it and describe it,” said Chief Operating Of-



ficer Matthew Lehtinen. “The material we don’t use is put back in place, and then we restore the land to a higher standard.”

Current annual production of about 1 million tons is slated to increase early next year with the completion of the new Coleraine plant. Lehtinen said 100 workers will be needed to run the plant, bringing the firm’s Minnesota head count to about 400. Later this year, some Minnesota concentrate will start feeding a Magnetation plant under construction in Indiana that will supply iron pellets to AK Steel.

Outcomes for other iron ore projects in the district are uncertain. In 2008, Essar Steel Minnesota broke ground for an open pit mine and taconite pellet plant in Nashwauk. Designed to produce 7 million metric tons of pellets a year, the plant would be the first taconite mine and processing plant built on the Iron Range since the 1970s. But Essar, owned by a multinational steel enterprise based in India, has had trouble financing the project, and construction halted last winter.

In northeastern Wisconsin, Gogebic Taconite Mining has proposed a \$1.5 billion iron ore mine that would operate for at least 35 years and employ about 700 people. However, the mine is in an exploratory phase, and operations are probably years away because of the lengthy list of federal, state and local permits required.

For all of this recent and prospective development, the eastern part of the district is unlikely to see a new Iron Age. U.S. raw steel production has fallen 35 percent since the mid-1970s, increasingly supplanted by imports; last year,

almost 23 percent of steel used in the United States was shipped from other countries such as Canada, Russia and South Korea. Although domestic steel sales are expected to rise this year, foreign competition and increasing reliance on steel scrap as feedstock for mills will likely limit demand for iron ore from district mines.

Moreover, iron production in the U.P. is on a downward path. Cliffs’ Empire Mine southwest of Marquette, scheduled to close this year, won a reprieve in February when ArcelorMittal USA agreed to buy ore pellets for another two years. The deal saved more than 600 jobs. But Cliffs has said that the mine is nearing the end of its productive life.

Bullish on nonferrous metals

Hopes in some parts of the district for a substantial mining revival ride on nonferrous mining—the extraction of copper, nickel and precious metals such as gold and silver. A number of mines under development or in the planning stage are in areas of the district, such as northern Minnesota and the U.P., that have never seen commercial nonferrous mining or where such mining has died out.

The main motivation for these projects is the profits to be made from metal commodities in an era of global economic growth and technological innovation. Prices of many metals rose dramatically in the 2000s, according to the World Bank (see Chart 4). Prices for most nonferrous metals have cooled since 2011, but still are at the highest level in 30 years

Mining companies pursuing nonferrous metals in the district say they expect market demand to remain high, driven largely by modernization in China, India, Brazil and other emerging economic powers. Copper is used in power generation and transmission, plumbing and electronics. Nickel is a key ingredient of stainless steel. And growing “green” technologies use large amounts of nonferrous metals. A large wind turbine, for example, contains about four tons of copper.

PolyMet began developing its mine and processing facility near Hoyt Lakes in 2008, intent on unlocking the wealth in northeastern Minnesota’s Duluth Complex, one of the world’s largest undeveloped deposits of copper and nickel. The company has spent over \$50 million on the NorthMet project and is seeking state and federal permits to mine 230 million tons of ore over 20 years. In addition to copper and nickel, PolyMet plans to extract small amounts of gold, platinum, palladium and cobalt.

NorthMet spokesman Bruce Richardson says the mine would pan out financially even if the price of copper fell to less than half the current price of about \$3 per pound. “We have a high degree of confidence it will be productive and profitable,” he said.

PolyMet and other mining companies pursuing nonferrous metals in the district say they expect market demand to remain high, driven largely by modernization in China, India, Brazil and other emerging economic powers. Richardson notes that copper is used in power generation and transmission, plumbing and electronics. Nickel is a key ingredient of stainless steel. And growing “green” technologies use large amounts of nonferrous metals. A large wind turbine, for example, contains about four tons

of copper. “We are bullish on the future of these commodities,” he said. “These metals are ubiquitous; we simply can’t do without.”

Jerry Zieg, vice president of exploration for Canadian firm Tintina Resources, is equally bullish on the value of an untapped copper deposit in west-central Montana. Tintina has proposed an underground mine near White Sulphur Springs to tap into a vein of copper potentially worth almost \$2 billion. “When you look at what’s happening with world populations and the demand for copper, we’re quite optimistic that the copper market will stay pretty good for a long time to come,” he said.

Elevated commodity prices have also driven development of the Eagle Mine, a nickel and copper mine under construction near Marquette, Mich.; the Butte Highlands Project, a gold mine being developed on a historic mining site south of Butte, Mont.; and Dewey Burdock, a planned uranium mine near Edgemont, S.D., on the western edge of the Black Hills.

Technological advances have helped spur new mine development by allowing mining companies to tap into new mineral sources and extract maximum value from ore. For example, refinements in geophysical exploration methods have led to the discovery of small, rich ore bodies such as the one underlying the Eagle Mine. And advanced processing techniques used to isolate and concentrate small quantities of valuable metals such as gold and platinum have enhanced the economics of mining low-grade “polymetallic” ore deposits such as the Duluth Complex.

Jobs and water worries

This flurry of mining activity holds out the promise of economic renewal for local communities long dependent on natural resource industries. In Hoyt Lakes, Mayor Skelton foresees not only city residents working at the NorthMet and Twin Metals mines, but also mine spending and job creation at local businesses that serve mine workers and their families. “We’re hoping that if and when this happens that it’s going to make our economy more stable,” he said.

Copper and nickel mining would also generate additional tax revenue. A 2 percent tax on net proceeds from nonferrous mining is on the books in Minnesota; revenues from active mining in the Arrowhead would go to counties, cities and school districts in that region.

In the U.P., residents of Marquette

Metal mining from page 9

County are anticipating the opening of the Eagle Mine, which would provide a domestic supply of nickel for the first time since an Oregon mine closed in 1996. Lundin Mining of Canada has spent over \$700 million to acquire the mine and bring it into production, scheduled for the end of this year. According to an economic impact study commissioned by Lundin, the mine would employ about 330 people and generate \$570 million in direct spending in the U.P. over its eight-year operating life.

Other western U.P. mining projects in the planning stage raise hope of continued mine employment and spending after the Eagle Mine closes. One such project is Copperwood, a proposed copper and silver mine near the Porcupine Mountains. Highland Copper of Canada acquired the mine site earlier this year and also plans to resume mining for copper at an abandoned mine in Ontonagon County.

But nonferrous mining faces opposition in many areas of the district from environmental groups and some local residents who claim that this type of mining threatens water quality and wildlife. Some American Indian tribal groups have also objected to mining on the grounds that it trespasses on sacred lands or hunting and fishing rights granted by treaty.

Many, but not all, nonferrous mines involve extracting ore containing sulfur compounds. When mine waste rock weathers, acids can leach into rivers, lakes or groundwater. The Eagle Mine would mine sulfide ore and has been opposed for years by Save the Wild U.P., an environmental advocacy group. Both the NorthMet and Black Butte Copper projects have sparked resistance because of potential sulfide contamination.

In the Black Hills, the planned Dewey Burdock mine has raised concerns about possible groundwater pollution and damage to Indian burial grounds from *in situ* uranium mining, which involves injecting solvents into the ground to absorb the radioactive element.

(In general, new iron mining development has not provoked opposition because iron ore poses less danger to water resources, and most mine projects are in established mining districts.)

Mining companies say they can allay these concerns by adhering to federal and state environmental regulations. Said Zieg of Tintina: "Montana has very strict water regulations, so built into our planning right from the beginning are strategies to make sure there's no deg-

When most of the region's copper mines closed in the 1960s, the operators "just walked away and left us with a big damn mess. Nobody's going to stand for that anymore. But mining technology has changed, and people here are convinced that you can mine safely, and we need copper. That's all there is to it."

—Kim Stoker

radation of water." Federal and state financial assurance laws require mining firms to set aside funds to ensure that played out mines are properly closed and, if necessary, monitored and treated to prevent problems.

Like that of iron mining, the future of nonferrous mining in the district will be largely determined by market forces beyond the district's borders. A slowdown in demand for nonferrous metals in China and other fast-growing countries could delay or derail planned mine openings. But in some areas of the district, whether or how quickly mine development occurs also depends on the extent to which mining firms and opponents can find common ground.

Kim Stoker, executive director of an economic development group in the western U.P., believes that a meeting of minds is possible. When most of the region's copper mines closed in the 1960s, the operators "just walked away and left us with a big damn mess," he said. "Nobody's going to stand for that anymore. But mining technology has changed, and people here are convinced that you can mine safely, and we need copper. That's all there is to it." ■

Research Analyst Dulguun Batbold contributed data research to this article.

Coal producers fire up exports

District coal producers are fighting to retain market share in a national power generation industry that derives an increasing share of its energy input from alternative sources. One survival strategy that has gained traction recently is exporting to Asian countries with a large and growing appetite for coal.

Over the past half-decade, coal's position as the dominant feedstock for power plants has been eroded by cheap natural gas, increasingly competitive renewables and stringent federal air quality regulations that have rendered many coal-burning plants too costly to operate. In 2008, 48 percent of U.S. power generation was coal-fired, according to the Energy Information Administration; in 2013, coal's share was 37 percent.

Many coal producers have turned to foreign markets to offset an overall drop in domestic coal consumption. In Montana, the go-to export destinations are South Korea, Taiwan and Japan. "There's huge demand for coal in southeastern Asian countries for power generation," said Bud Clinch, executive director of the Montana Coal Council, an industry trade association.

Subbituminous coal from southeastern Montana is cheaper than coal from many other parts of the country, and its high energy content makes it economical to ship overseas via rail and cargo ship. (No coal is exported from North Dakota; the total output of the state's lignite mines goes to local power plants.)

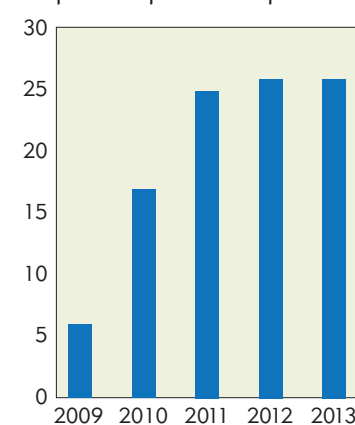
Since 2008, Montana coal exports have increased sharply, mostly due to shipments from the Spring Creek mine outside Decker, near the Wyoming border (see chart). Over 40 percent of Montana coal comes from this mine, owned by Cloud Peak Energy of Wyoming. In 2013, Spring Creek exported 4.7 million tons to East Asian customers—triple the amount from 2009—mainly through a coal terminal in the Canadian port of Vancouver.

Signal Peak Energy's Bull Mountain mine near Roundup, Mont., also exports coal, and developers of the proposed Otter Creek coal mine southeast of Ashland, Mont., plan to ship coal to Asia via a new rail link to BNSF's Colstrip terminal.

But limited port capacity on the Pacific Coast constrains coal exports from Montana and other western states. Ramping up shipments depends on the opening of new coal export terminals in Oregon and Washington state—projects that face opposition from environmental groups concerned about global warming and the impact of coal handling on local air and water quality.

—Phil Davies

Montana coal* to Asia
Exports as percent of production



*From Spring Creek mine, Decker, Mont.
Source: Cloud Peak Energy annual reports

Bakken energy production continues to boom, but growth is easing

By ROB GRUNEWALD
Economist

DULGUUN BATBOLD
Research Analyst

The Bakken and Three Forks formations are producing 1 million barrels of oil daily in North Dakota and Montana, representing 12 percent of oil production in the United States. North Dakota also recently reached the milestone of over 10,000 producing wells statewide. Challenging weather conditions over the winter slowed drilling and production activity, but as spring is blooming, activity in the region is picking up.

While oil production levels are high and 2014 promises to be a record year, the rapid pace of growth in the area is easing somewhat compared with the past few years. One sign of easing is that recent leasing activity in North Dakota has been “very low,” according to the state Department of Mineral Resources.

Energy companies have worked vigorously over the past few years to lease land and secure one producing well on the property, which opens the door to drilling additional wells in the same proximity (called a pad) over the next few years. With much of the initial leasing and drilling completed, energy companies in the next phase can operate a drilling rig in one area and drill several wells in sequence before dismantling the rig and moving it to a new site. There are as many as 16 wells on a pad drilled to various depths and horizontal directions.

The number of active oil rigs operating in North Dakota increased from an average of 170 in January to 178 in April, slightly higher than the number operating in April 2013, but down from June 2012 when over 200 drilling rigs were operating in North Dakota (see Chart 1). Meanwhile, the average number of rigs operating in Montana dropped to seven in April, down from 10 a year earlier and 25 in October 2012. Activity along Montana’s eastern border is quieter than during 2004 and 2005, the start of the Bakken boom, when more drilling rigs operated in Montana than in North Dakota.

Oil has been the focus of production in the Bakken and Three Forks formations, but gas production continues to climb as processing capacity and gas-gathering pipelines expand. Nevertheless, recently over one-third of natural gas produced was not captured and sold (see Chart 2). With lower prices for gas

relative to oil and the construction time needed to build gas-gathering pipelines, which are required to capture natural gas, the economics of energy production lead companies to produce oil from new wells before putting infrastructure in place to capture gas.

Almost all natural gas not captured and sold is flared, which releases carbon dioxide, a greenhouse gas, as a byproduct of combustion. Carbon dioxide is a less powerful greenhouse gas than methane, which would be released if it weren’t for flaring. New gas processing capacity coming online this spring and recent state regulation changes are expected to spur increases in gas capture and reduce the proportion of wells that flare gas.

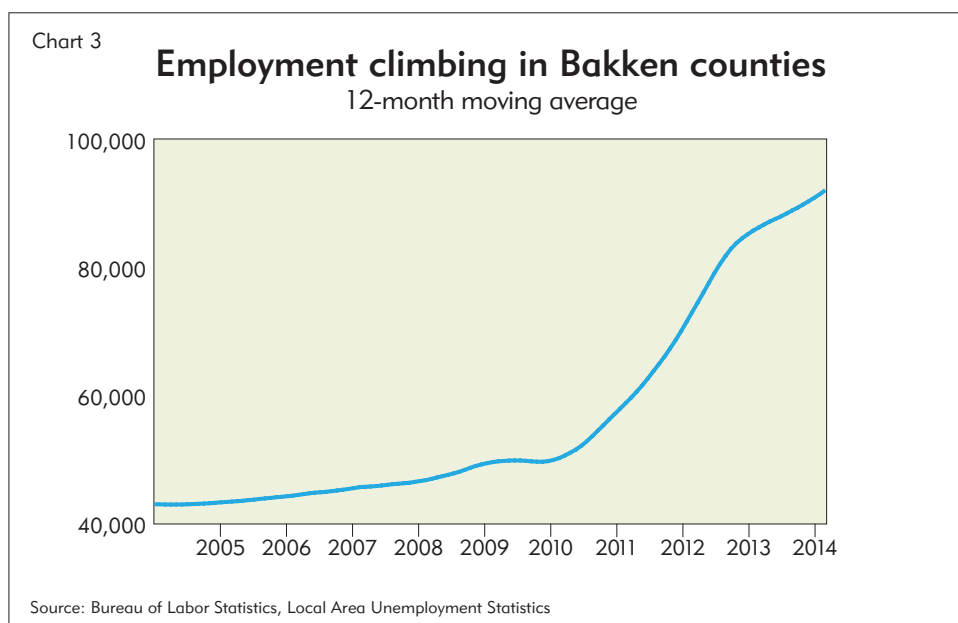
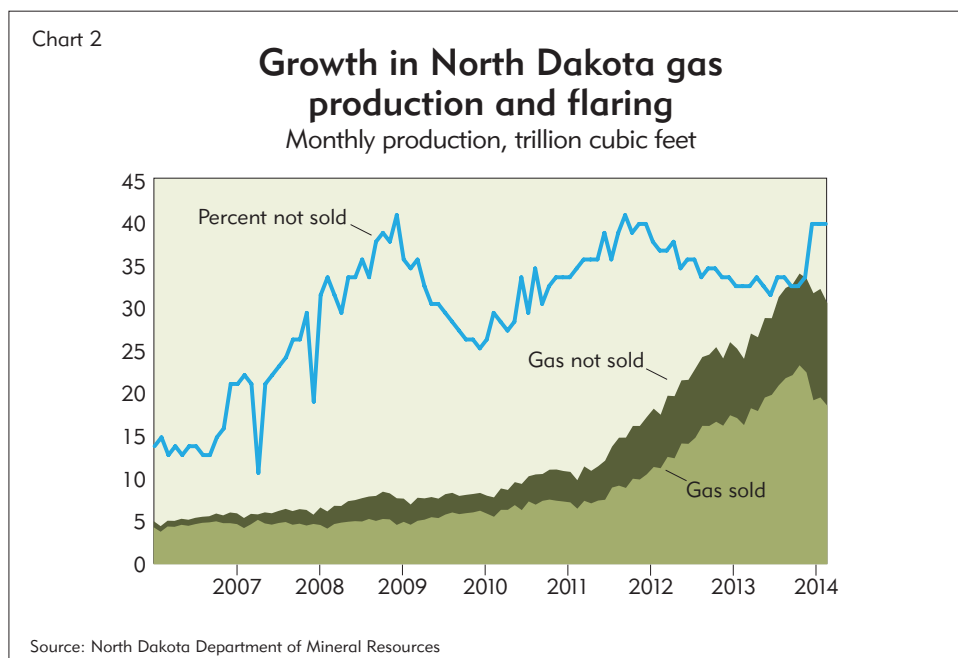
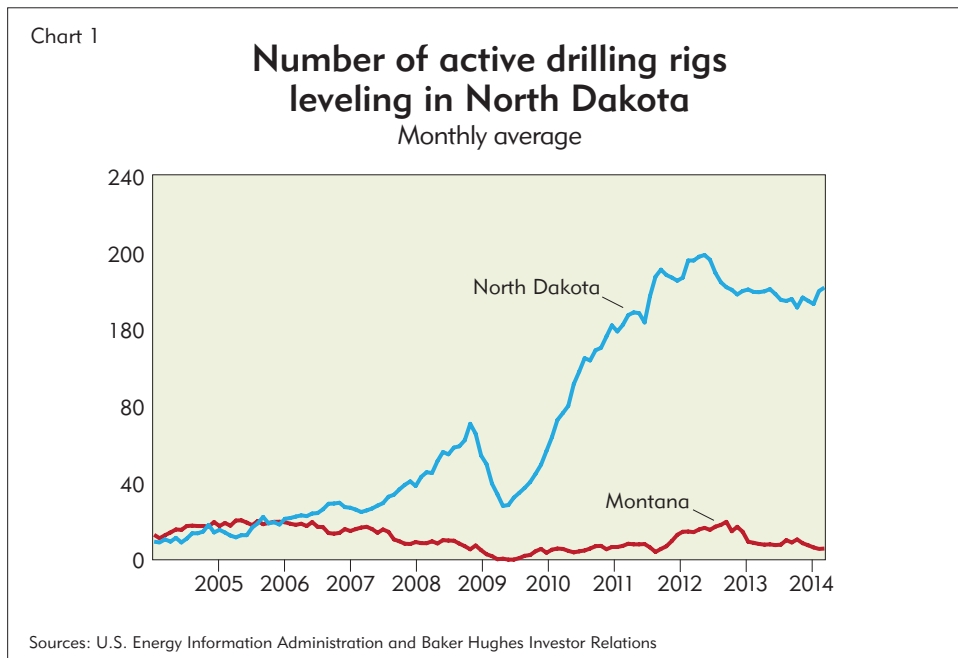
As more wells are drilled, more workers are needed to haul fracking fluids and oil in trucks, build pipelines for oil and gas, and maintain equipment. The pace of job growth in the Bakken area remains strong. For the 12-month period that ended in March, employment was 7 percent higher than a year earlier (see Chart 3). The unemployment rate in Bakken counties is 1.6 percent, with the lowest county unemployment rates in Williams (0.9 percent), Dunn (1.2 percent) and Billings (1.4 percent).

However, the pace of employment growth began slowing during last few months of 2013. Other indicators also suggest that labor market tightness is easing somewhat as growth in average weekly wages started slowing in 2012 (see Chart 4, page 12). In third quarter 2013, average weekly wages were 4 percent higher than a year earlier, down from a year-over-year peak increase of 21 percent in first quarter 2011.

In addition, the number of online job postings in North Dakota Bakken counties was up about 30 percent in March and April compared with a year earlier. From 2012 to early 2014, online job postings in the Bakken were relatively flat after increasing almost 400 percent from 2009 to 2012. Online job postings in the Bakken account for about one of every five jobs posted in North Dakota.

The number of business establishments continues to increase, but the pace slowed to 8 percent in 2013 following years of double-digit growth. There were 7,066 business establishments in the Bakken during third quarter 2013, up from 3,776 in third quarter 2005.

Finally, growth in construction has moderated in Williston, N.D., and the surrounding area over the past year, although building remains at very high



levels. In 2013, the city of Williston issued 58 commercial building permits, down from 106 the year before, and 124 single-family housing permits, down from 208 the year before. While lower than a year ago, permit levels were strong relative to preboom his-

tory. For example, after issuing only four permits for building apartment complexes from 2004 to 2008, the city issued 49 such permits in 2013 alone, a record year.

Housing units authorized for construction in Stark County, which in-

Professional services firms' growth may be constrained by labor availability

By TOBIAS MADDEN
Regional Economist

Business is picking up for firms that support other businesses, according to the annual survey of professional services firms conducted by the Federal Reserve Bank of Minneapolis and the Minnesota Department of Employment and Economic Development. But these companies are having a harder time finding the skilled labor—accountants, architects, engineers, graphic designers, market researchers, management consultants and other professionals—necessary to meet client demands.

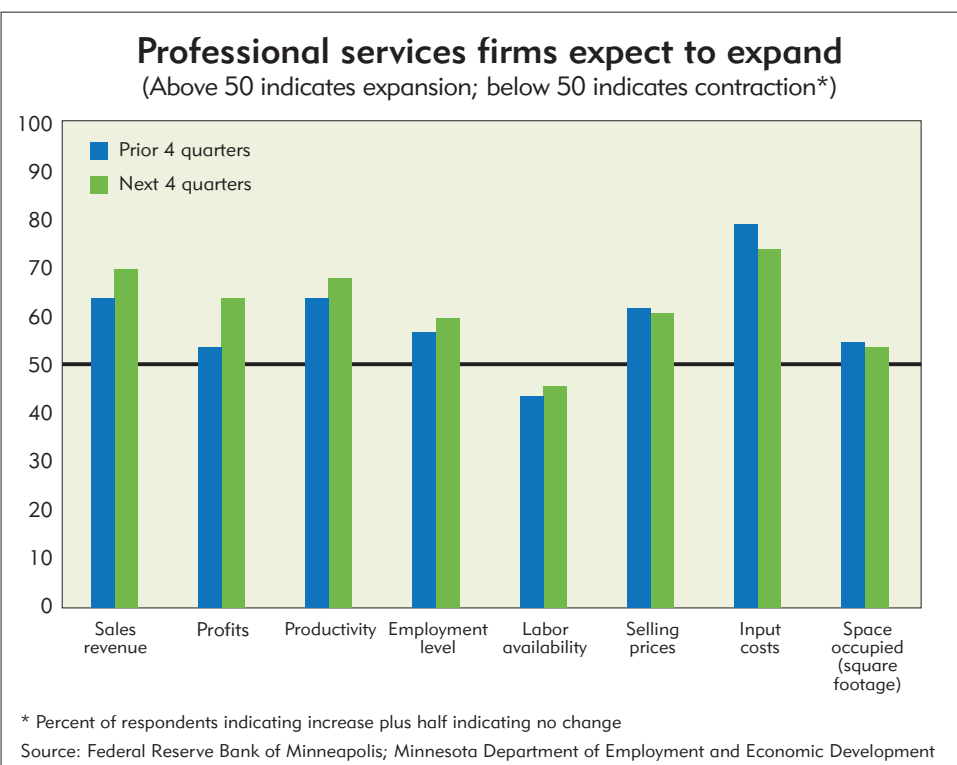
The good news is that more services firms reported growth in sales and profits over the past four quarters than those reporting a decline, and respondents expect this trend to accelerate in the coming year (see chart). Employment also expanded over the past year, according to the balance of respondents, who are slightly more upbeat about the coming year as well.

The bad news for services firms is that more respondents said labor availability is getting tighter, and they do not expect the situation to meaningfully improve in the next year. At least some appear able to deal with tight labor conditions thanks to rising productivity at their firms—something that is also likely contributing to higher sales and profits. More firms reported rising (rather than falling) service prices and

input costs, and average wages over the past year increased by 2.7 percent and benefits by an average of 2.4 percent. While more growth is expected in the next year, respondents believe those trends will moderate at least slightly. Respondents from the low-unemployment Dakotas anticipate higher wage increases, while respondents from Michigan's Upper Peninsula, where unemployment is higher than the national average, reported slower wage growth.

More employers in this sector expect their state's economy, total employment and consumer spending to increase (rather than decrease) over the next four quarters. While corporate profits are expected to increase across the district, 62 percent of respondents also expect higher inflation, with only 1 percent believing that inflation will decrease.

Increased oil exploration and drilling activities in North Dakota have had a positive effect, as 27 percent of respondents reported higher sales revenue and 11 percent noted higher employment as a result of the oil boom. However, not many have opened new locations or expanded into North Dakota. **f**

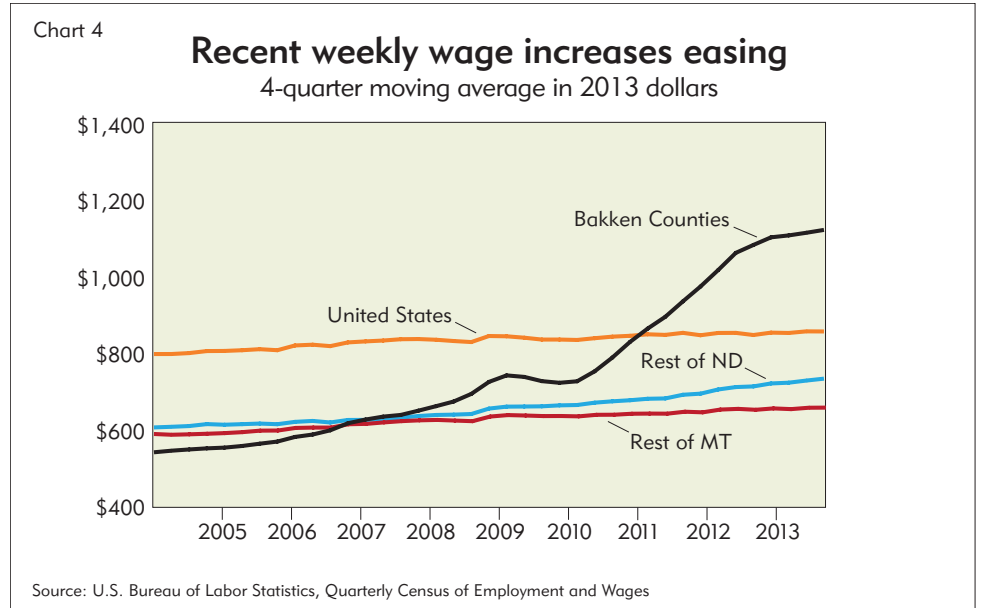


Bakken from page 11

cludes Dickinson, N.D., dropped to 760 in 2013 from 1,484 in 2012. In 2004, housing units authorized in Dickinson represented 2 percent of all authori-

zations in North Dakota. In 2013, the county represented almost 9 percent of all authorizations in the state.

For more Bakken data, analysis and maps, see the Minneapolis Fed's Bakken section online at minneapolisfed.org. **f**



Crying over spilled oil

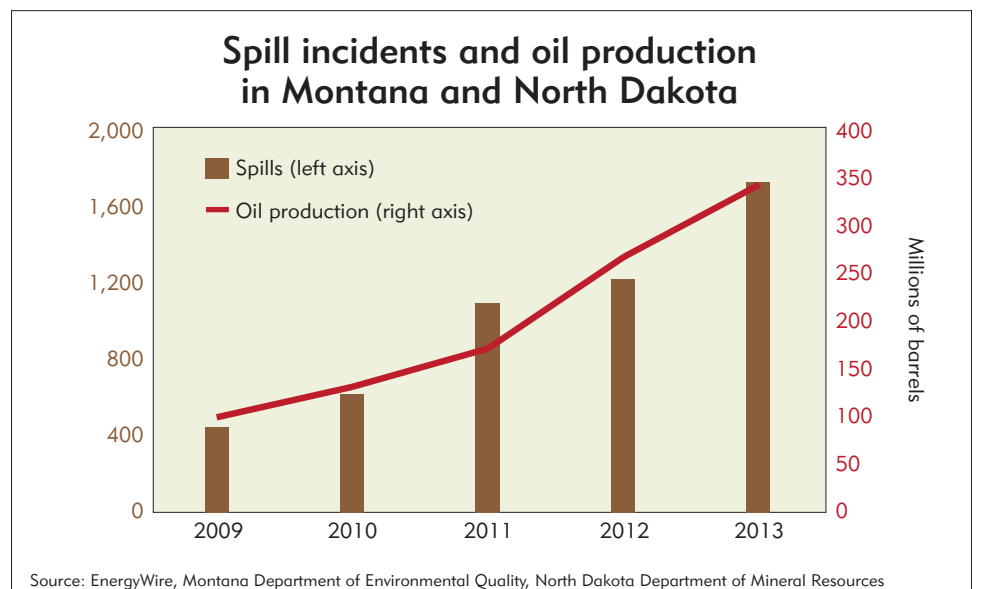
The Bakken oil boom has been a big economic story over the past few years, not just in the region but nationally. But it hasn't been all economic good news. Booming oil extraction has led to a big increase in spills of oil, chemicals and other drilling byproducts, according to an analysis of state records by EnergyWire.

From 2009 to 2013, the number of spills tripled, roughly in line with the increase in oil production (see chart). Most of the spills (and oil production) occurred in North Dakota. The volume of fluid spilled has grown even faster, in part because of a dramatic spike in 2013. One of the biggest incidents was a wastewater spill of 17,000 barrels last

November in Bowman County, N.D.

As that incident attests, not all of these occurrences are oil spills. The fracking process used to extract shale oil from formations like the Bakken requires pumping large volumes of water mixed with other chemicals at high pressure. Some of the spills in the database are of seawater and other fracking fluids. And a few of the records cover spills of diesel fuel and assorted other fluids used by drilling machinery. Over the past several years, the proportion of spills involving oil appears to have remained fairly stable, at around two-thirds.

—Joe Mahon



Moderate economic growth to continue into 2015

By ROB GRUNEWALD
Economist

JOE MAHON
Economic Analyst

The Ninth District is expected to post moderate economic growth during the rest of 2014 and into 2015, according to the Minneapolis Fed's survey of professional business services firms and the Minneapolis Fed's economic forecast models. Results from the services survey are more upbeat than the forecast models, which are somewhat less optimistic than forecasts made in January.

Employment has made recent gains, and unemployment rates are relatively low. Residential construction and real estate have softened; whereas, manufacturing has expanded. In agriculture, lower prices are forecast for a number of crops, which will likely reduce income, while livestock and dairy producers are benefiting from higher prices.

That memorable winter

The extraordinarily cold and snowy winter contributed to a slow start to 2014. U.S. GDP decreased at an annual rate of 2.9 percent in the first quarter. However, economic indicators suggest that growth has picked up since the weather turned warmer. The United States gained 282,000 jobs in April and 217,000 in May. During the depth of winter, job growth slowed to 84,000 and 144,000 net new jobs in December and January, respectively.

While residents and businesses in the Ninth District are used to weathering cold and snow, the harshness of this past winter left a few dents in economic activity. Supply and distribution routes were frequently interrupted due to snow, and extremely cold weather slowed visits to some winter tourism destinations in the district. The long winter delayed planting, but farmers have mostly caught up. While year-over-year employment growth slowed in February in several areas of the district, employment growth picked up in May and was 1.6 percent, slightly lower than the U.S. growth rate.

District employment growth in May was strongest for natural resources and mining at just over 12 percent (see Chart 1). Robust oil and gas drilling and production activity in North Dakota continues to add to payrolls and accounts for most of the district's employment growth in natural resources and mining. As of May, North Dakota accounted

for 59 percent of district employment in natural resources and mining. The Bakken and Three Forks formations are producing 1 million barrels of oil daily in North Dakota and Montana, 12 percent of U.S. oil production (see related story on page 11).

Construction employment posted the next-largest gain in employment (4.6 percent), followed by manufacturing (2.5 percent) and professional and business services (2.1 percent). Information and financial services was the only sector to lose jobs over the past year, with a 0.4 percent decrease.

With growing employment, unemployment rates continue to decrease or remain at relatively low levels. The district unemployment rate dropped to 4.9 percent in May, the lowest rate since August 2008, during the first year of the Great Recession. North Dakota has the lowest unemployment rate in the country at 2.6 percent. Even the unemployment rate in the Upper Peninsula of Michigan, which typically is much higher than the district rate overall, has dropped below 9 percent and is down more than a percentage point over the previous 12 months. In April and May, the U.S. unemployment rate was 6.3 percent.

Looking ahead, more respondents to the Minneapolis Fed's recent professional and business services survey expect employment growth (rather than decline) at their companies during the next 12 months (see related story on page 12). This assessment was even more upbeat than the employment assessment of the previous 12 months.

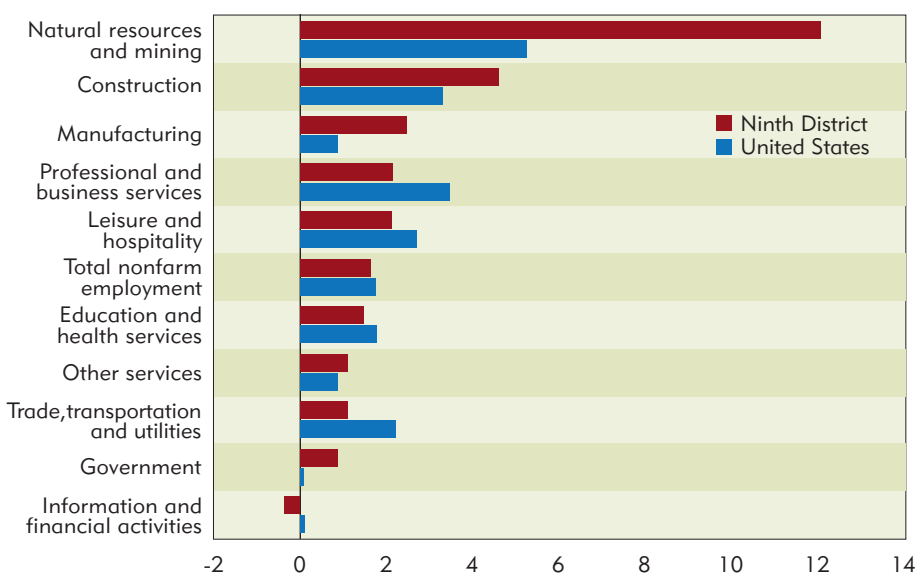
However, results of the Minneapolis Fed's economic forecast models point to slowing employment growth. Employment growth is expected to finish 2014 near 1 percent in Minnesota, South Dakota and Wisconsin, closer to 2 percent in Montana and 4.6 percent in North Dakota. Employment is expected to decrease in the Upper Peninsula of Michigan. The models point to little change in employment levels during 2015, except for 1 percent growth in Montana and 4 percent growth in North Dakota. Unemployment rates are expected to remain mostly level, except for a 0.6 percentage point drop in Wisconsin and about a 1 percentage point drop in Montana and the Upper Peninsula from 2013 to 2015.

A constraint to employment growth in several areas of the district is slower growth in the labor force and increased tightening in labor markets. Manufacturers in many parts of the district have

Chart 1

Employment increases for most industries

Nonfarm employment, percent change from a year earlier, May 2014



Source: Bureau of Labor Statistics

noted difficulty finding qualified employees to fill open positions, particularly skilled welders and machinists. Respondents to the professional services survey also observed shrinking labor availability over the past 12 months, and they don't see the situation changing much in the coming year.

Despite tightening in the labor force and predictions of low unemployment rates continuing through 2015, overall wages haven't pushed up appreciably. Average hourly earnings for district manufacturing workers increased less than 1 percent for the 3-month period ended in May compared with a year earlier. However, more substantial wage gains continue in the North Dakota and Montana energy drilling and production areas, though the pace of wage increases has slowed recently.

According to the forecast models, personal income growth is predicted to increase in 2014 from year-earlier rates in all district states except North Dakota, where personal income growth is predicted to slow to 0.7 percent. South Dakota's expected 0.5 percent growth follows a slight decrease in personal income in 2013. Modest predictions for 2014 are in large part due to decreases in farm income following declines in commodity prices. In 2015, personal income growth is expected to perk up, with growth rates accelerating in Montana, North Dakota and South Dakota, remaining the same in Wisconsin and decelerating slightly in Minnesota.

Some softening in home building and sales

Solid home building gains in 2012 and 2013 have helped boost the district's construction industry over the past couple of years. However, growth in housing units authorized across the district slowed during the first five months of 2014 to 6.6 percent from a year earlier and declined in Minnesota, South Dakota and Montana (see Chart 2). The exception was North Dakota, where housing units authorized were up 33 percent.

Real estate markets in some parts of the district also cooled recently, although home prices continue to climb. During the first four months of 2014, Minnesota home sales were down 11 percent compared with the same period a year earlier. Nevertheless, the median sales price was up almost 7 percent. The mix of homes for sale in the Minneapolis-St. Paul area includes a much smaller proportion of foreclosed and bank-owned homes than just a few years ago, helping to boost home prices. During the first quarter of 2014, the median sales price for existing homes was up 10 percent in Minneapolis-St. Paul, was up 5 percent in Bismarck, N.D., was up 3 percent in Sioux Falls, S.D., and was flat in Fargo, N.D.

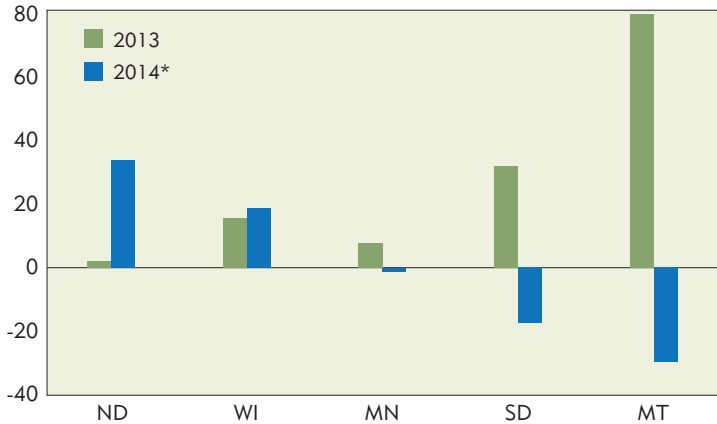
Commercial building is expanding at a moderate pace in the district. Multifamily building construction has been growing steadily in several areas

Continued on page 14

Chart 2

Slower prospects for home building

Housing units authorized
Percent change from a year earlier



* Percent change from May 2013 year-to-date to May 2014 year-to-date
Source: U.S. Census Bureau

Crop prices projected to fall, dairy and livestock to increase

Average farm prices

	2011/2012	2012/2013	Estimated 2013/2014	Projected 2014/2015
(Current \$ per bushel)				
Corn	6.22	6.89	4.35-4.55	3.65-4.35
Soybeans	12.50	14.40	13.00	9.50-11.50
Wheat	7.24	7.77	6.87	6.00-7.20

	2012	2013	Estimated 2014	Projected 2015
(Current \$ per cwt)				
All Milk	18.52	20.05	23.25-23.55	19.70-20.70
Steers	122.86	125.89	146.00-150.00	145.00-157.00
Hogs	60.88	64.05	79.00-81.00	75.00-81.00

Source: U.S. Department of Agriculture, estimates as of July 2014

Growth from page 13

of the district. Office and retail vacancy rates in the Minneapolis-St. Paul area have been decreasing over the past few years.

Manufacturing continues to expand in the district. According to a survey of purchasing managers by Creighton University (Omaha, Neb.), manufacturing grew in Minnesota and the Dakotas during the first five months of 2014, with growth accelerating somewhat since the beginning of the year. This is consistent with national data, which show that manufacturers' orders increased 2.5 percent during the first five months of 2014 compared with a year earlier.

Another late start for district farmers

Last year was a tough one for farm output, which began 2013 with a late spring thaw and heavy rains that prevented farmers from planting crops on time. The growing season in 2014 started out similarly, with planting delayed by an extended harsh winter. However, as the weather improved, crop producers caught up. Planting progress and emergence rates for corn and soybeans in mid-June were close to their 5-year averages throughout most of the district and, in some cases, were further along. The district's spring wheat crop saw

more mixed progress.

The revenue outlook for crop producers is less sunny. The U.S. Department of Agriculture forecasts lower prices for corn, wheat and soybeans this year (see table). For livestock and dairy producers, the outlook is brighter. Prices for cattle are historically high, and hog prices also remain strong; both are expected to climb higher over the next year. However, the run-up in hog prices is due in part to a virus that has killed large numbers of animals, making the picture for hog producers mixed. Milk prices have increased, but are expected to moderate slightly in the year ahead. In addition, lower crop prices are good

news for animal product producers, as their feed costs have come down.

Due to lower crop prices, district agricultural producers began 2014 in worse financial shape than in recent years. According to the Minneapolis Fed's first-quarter (April 2014) agricultural credit conditions survey, 58 percent of respondents reported lower farm income, while only 9 percent reported higher income. Agricultural lenders mostly expect farm profits to fall further in the second quarter of 2014, with 53 percent expecting decreased income and just 8 percent expecting increases. On balance, the outlook for farm household and capital spending is also for decreases. **f**

A WEALTH OF CONTENT ON A VARIETY OF TOPICS

MINNEAPOLISFED.ORG

The Region

Interview with Glenn Loury

Brown University economist on inequality, the legacy of historical race discrimination and the limits of "equal opportunity"

Douglas Clement - Editor, The Region

Published June 13, 2014 | June 2014 issue

PDF version | TWEET | SHARE | EMAIL

Interview conducted March 7, 2014

Glenn Loury is an exceptional scholar, with important work in income inequality, public finance, discrimination, game theory, natural resource economics and other areas. He is also African American, a rarity in economics. While race has neither defined nor limited Loury's scholarship, there is no

CommunityDividend

With bank support, arts organizations help build better communities

Investments in local arts and culture can create social, human, and economic capital.

Jacob Wascalus - Community Development Project Manager

Published April 1, 2014 | April 2014 issue

Banking activity and performance in the Bakken in 2013

Ron J. Feldman - Executive Vice President and Senior Policy Adviser

Stacy Jolly - Financial Analyst

Published May 8, 2014

Asset and liability growth of banks in the Bakken have outpaced banks in the rest of North Dakota and Montana for the past several years. That relative outcome continued in 2013, although the rate of growth in the Bakken has slowed.

The data in this analysis compare the 14 banks headquartered in the Bakken with other banks in North Dakota and Montana. The one exception is for deposits, which includes data for all banks active in the Bakken, whether headquartered there or not.

Bank Performance

Montana and North Dakota

Percent change in deposits by county

June 30, 2012 to June 30, 2013

fedgazette Roundup

Made in (but not owned by) the USA

Investment is typically seen as a sign of economic strength, as people and financial entities put their money where they believe it can be most productive and profitable. Foreign direct investment (FDI) tracks the amount of money international firms invest in the United States, and a recent report on the matter by the Brookings Institution shows that it's growing in the Ninth District, but not as fast as it is elsewhere in the country.

In 2013, for example, companies invested \$1.46 trillion in locations outside their home country, and the United States is the single largest destination of that capital, receiving \$193 billion, according to the report. This investment manifests itself in many forms: spreading technology, facilitating the exchange of knowledge and inducing new trade.

Chart 1: Share of total private employment in foreign-owned establishments

Ron Feldman
EVP - Federal Reserve Bank of Minneapolis
ASSESSING COMMUNITY BANK CONSOLIDATION

As fedgazette readers have proven, many still like print. But when you're done reading this issue, there is a wealth of additional content online at **minneapolisfed.org**.

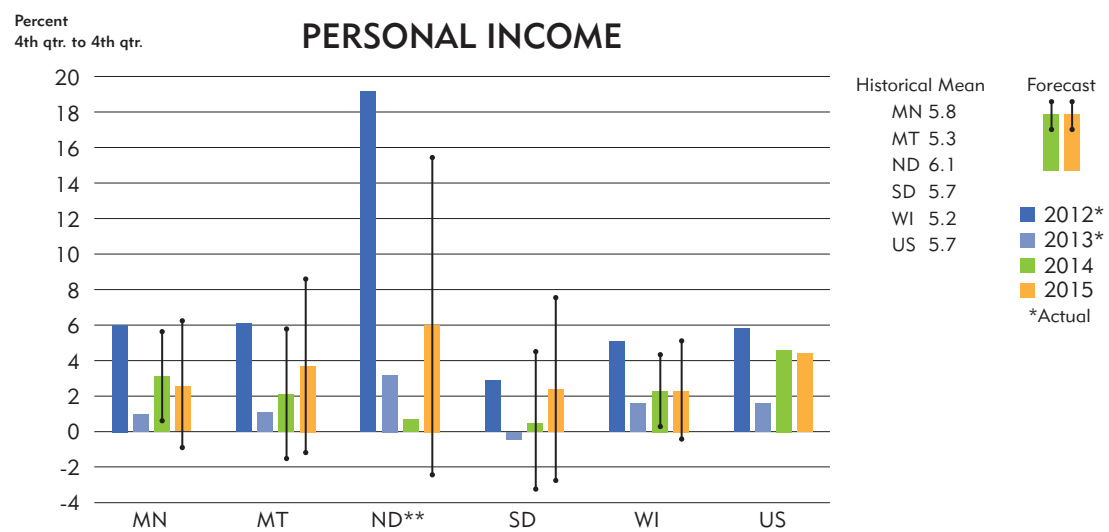
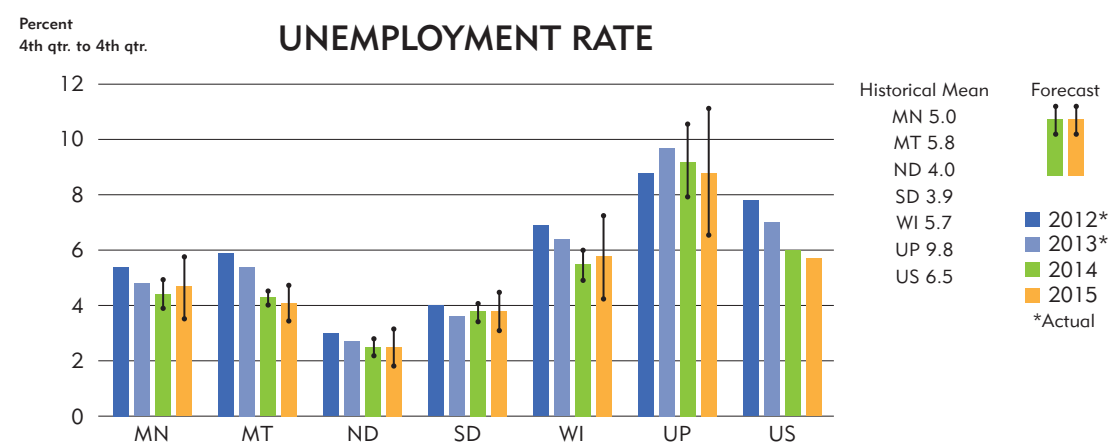
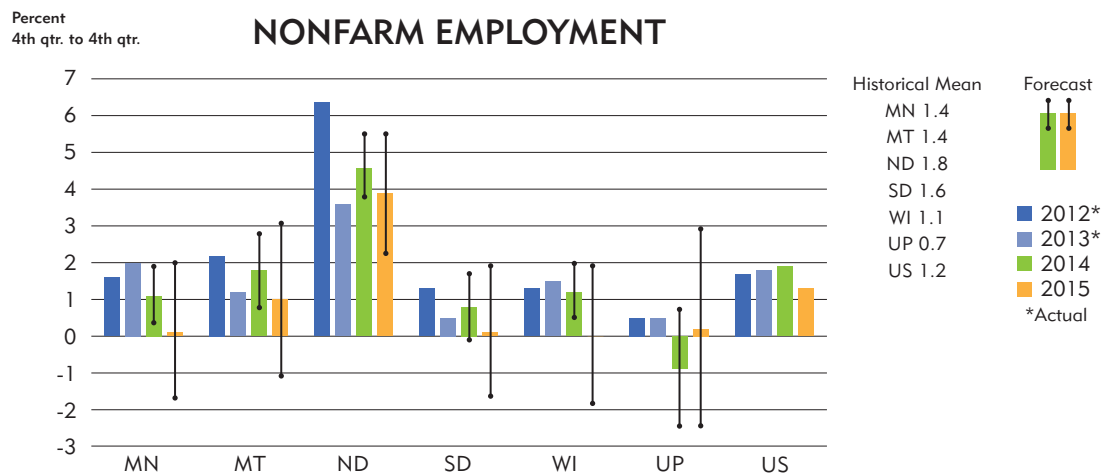
District forecast

Employment predictions are mixed for 2014, while overall growth is expected to slow in 2015. During 2014, growth rates are expected to pick up from 2013 rates in Montana, North Dakota and South Dakota. Growth rates are expected to slow in Minnesota and Wisconsin, and employment is predicted to decrease in the Upper Peninsula of Michigan (-0.9 percent). In 2015, employment levels are expected to remain flat from 2014 levels in all areas except Montana, where employment is predicted to increase 1 percent, and North Dakota, where employment is predicted to grow 3.9 percent. In 2015, growth rates are predicted to remain below historical averages and the U.S. average in all areas except North Dakota.

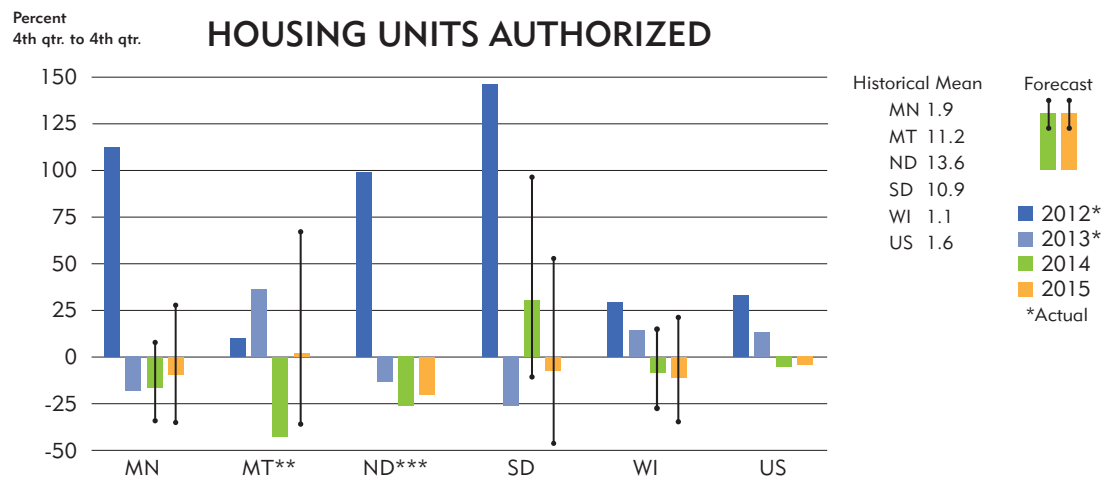
Unemployment rates are expected to decrease somewhat. During 2014, unemployment rates are predicted to decrease in all areas except South Dakota, where the unemployment rate is expected to increase slightly to 3.8 percent. In North Dakota, the unemployment rate is expected to drop to 2.5 percent. North Dakota currently has the lowest unemployment rate in the country. In 2015, unemployment rates are generally expected to remain level, with slight decreases in Montana and the Upper Peninsula and slight increases in Minnesota and Wisconsin. Unemployment rates in 2015 are predicted to remain below historical averages except in Wisconsin, where the rate will be slightly above at 5.8 percent. Only Wisconsin and the Upper Peninsula are expected to remain above the U.S. unemployment rate.

Personal income is predicted to grow moderately. In 2014, personal income is expected to grow stronger than in 2013 for all district states, with the exception of North Dakota. Minnesota, for example, is expected to grow 3.1 percent, higher than the 1 percent growth recorded in 2013. However, all district states are projected to have lower growth in 2014 than in the United States, which has an expected growth of 4.6 percent. For 2015, most states are expected to do better than in 2014, with North Dakota leading the way at 6 percent. Other than in North Dakota, personal income growth in district states is expected to remain lower than U.S. growth (4.4 percent).

Housing units authorized are expected to decrease. In 2014, authorizations are expected to decrease in all district states, except for a solid 31 percent increase in South Dakota. In 2015, housing units authorized are predicted to drop in all district states, except for a slight gain in Montana. However, the confidence intervals for home building predictions span a relatively wide range, indicating a much higher degree of uncertainty compared with forecasts for employment, unemployment rate and personal income.

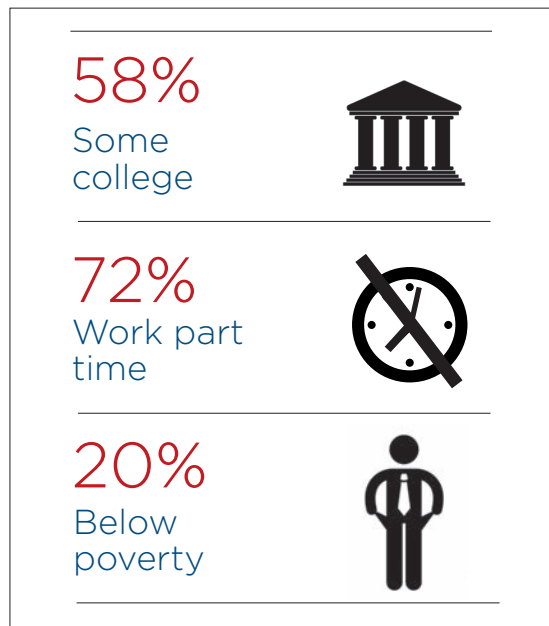


**Confidence interval for 2014 is -6.0 to 7.8.



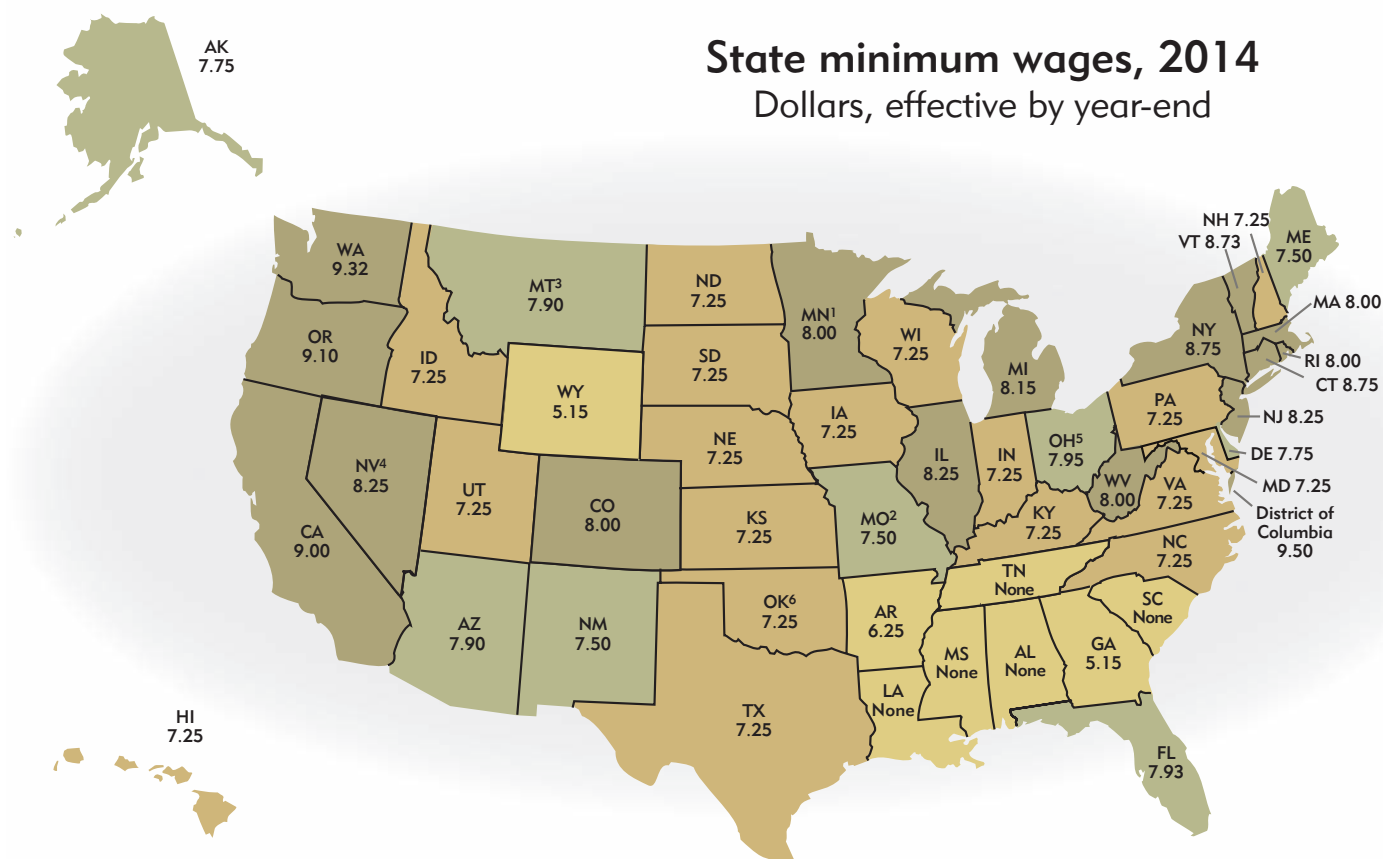
**Confidence interval for 2014 is -61.9 to -15.3.
***Confidence interval for 2014 is -57.2 to 26.4 and for 2015 is -60.6 to 59.3.

CHANGE SERVICE REQUESTED



Minimum wage

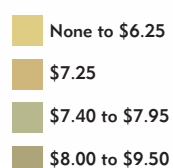
July 2014



States with future scheduled increases

	2015	2016	2017	2018
CA	9.00	10.00	10.00	10.00
CT	9.15	9.60	10.10	10.10
DE	8.25	8.25	8.25	8.25
DC	10.50	11.50	11.50	11.50
HI	7.75	8.50	9.25	10.10
MD	8.25	8.75	9.25	10.10
MI	8.15	8.50	8.90	9.25
MN Large	9.00	9.50	9.50	9.50
MN Small	7.25	7.75	7.75	7.75
NY	9.00	9.00	9.00	9.00
WV	8.75	8.75	8.75	8.75

¹ \$6.50 for employers with annual sales of \$500,000 or less
² Exempts employers with annual sales of less than \$500,000
³ \$4.00 for employers with annual sales of \$110,000 or less
⁴ \$8.25 without health benefits, \$7.25 with health benefits
⁵ \$7.25 for employers with annual sales of \$283,000 or less
⁶ \$2.00 for employers with fewer than 10 full-time employees at a location and employers with annual sales of \$100,000 or less
 Source: National Conference of State Legislatures



Federal minimum wage: \$7.25