BREAKFAST
March 29, 2016

ECONOMIC TRENDS IMPACTING THE 15-COUNTY REGION

UMD

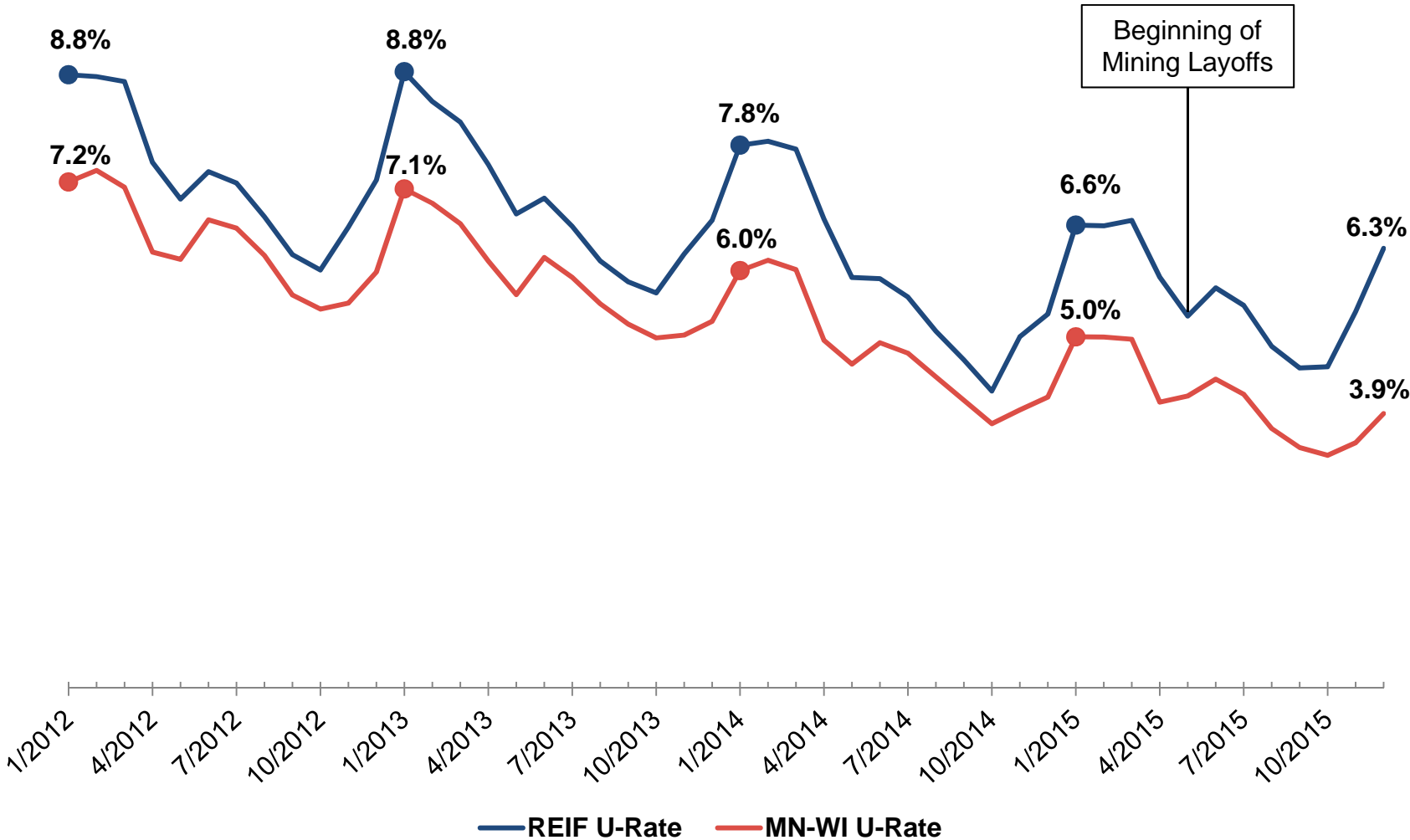UNIVERSITY OF MINNESOTA DULUTH

Driven to Discover

Austin Kuhn

Bureau of Business and Economic Research
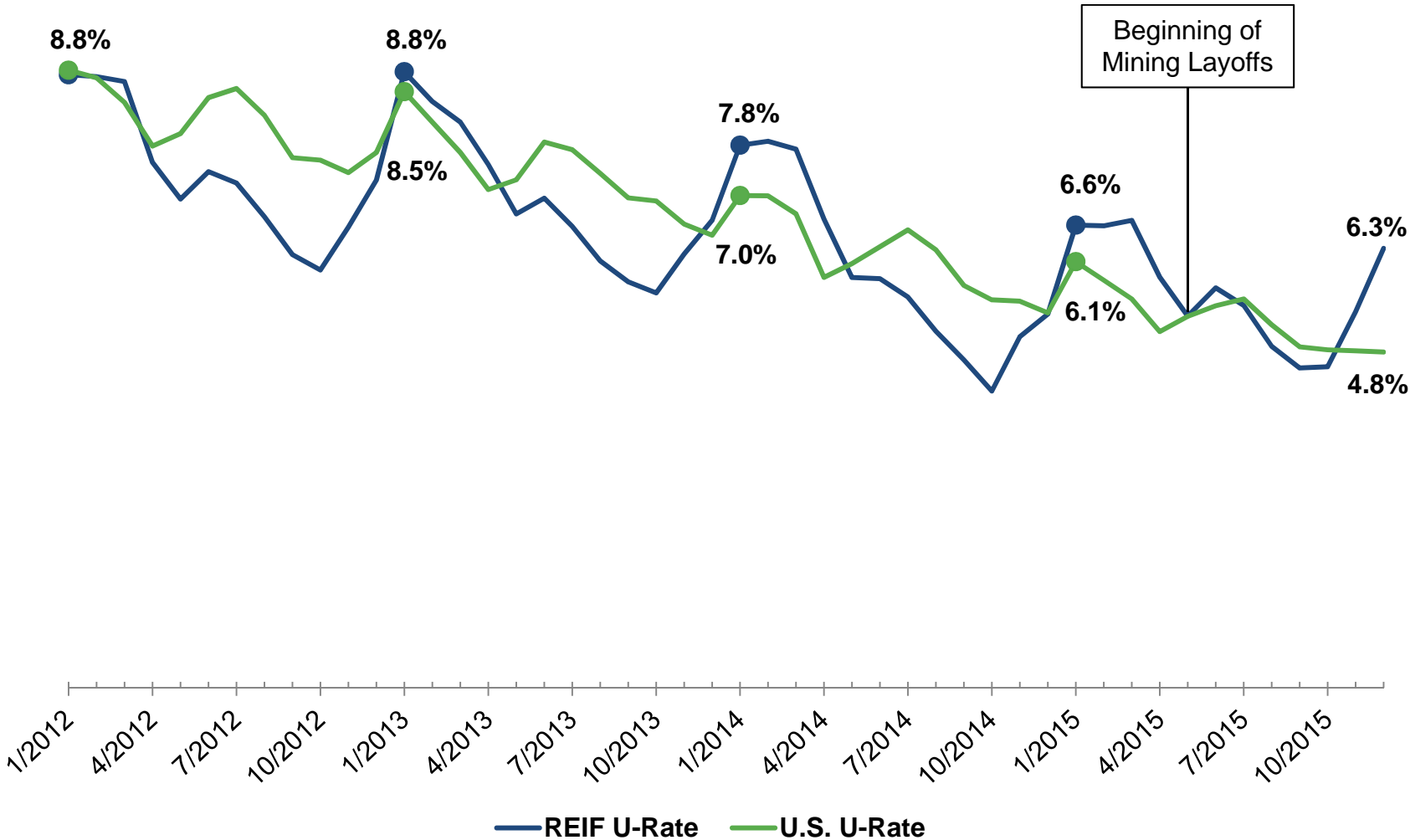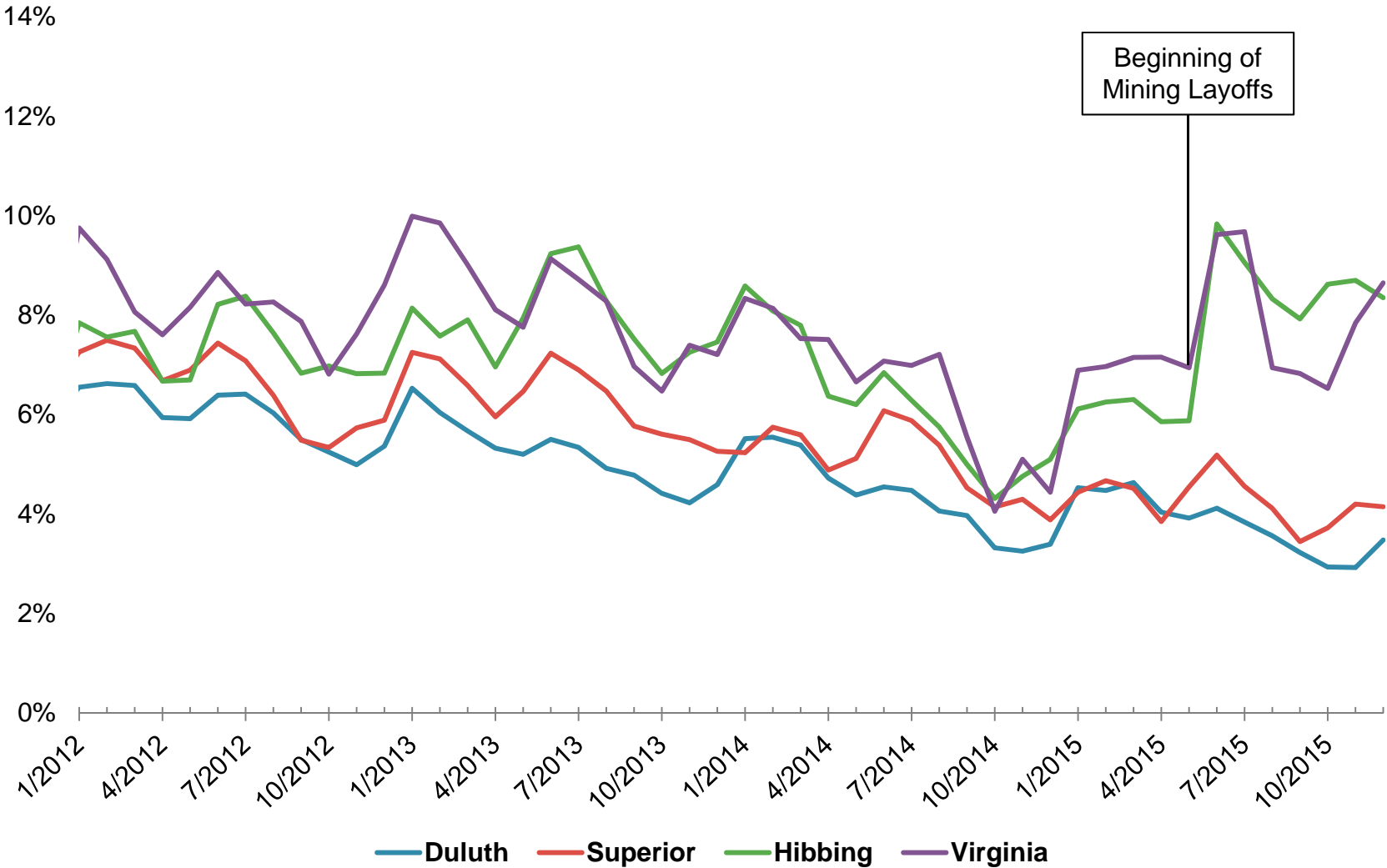Labovitz School of Business and Economics, UMD

REIF UNEMPLOYMENT RATE

8.8%   8.8%   7.8%   6.6%   6.3%

7.2%   7.1%   6.0%   5.0%   3.9%

Beginning of Mining Layoffs

1/2012 4/2012 7/2012 10/2012 1/2013 4/2013 7/2013 10/2013 1/2014 4/2014 7/2014 10/2014 1/2015 4/2015 7/2015 10/2015

REIF U-Rate   **MN-WI U-Rate**

Source: Local Area Unemployment Statistics, 2016

CITY UNEMPLOYMENT RATE

Beginning of Mining Layoffs

Duluth **Superior** **Hibbing** **Virginia**

Source: Local Area Unemployment Statistics, 2016

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CITY UNEMPLOYMENT RATE

Beginning of Mining Layoffs

14%

12%

10%

8%

6%

4%

2%

0%

1/2012 4/2012 7/2012 10/2012 1/2013 4/2013 7/2013 10/2013 1/2014 4/2014 7/2014 10/2014 1/2015 4/2015 7/2015 10/2015

Duluth   Superior

Source: Local Area Unemployment Statistics, 2016

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CITY UNEMPLOYMENT RATE

Source: Local Area Unemployment Statistics, 2016

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CITY UNEMPLOYMENT RATE

Beginning of Mining Layoffs

Legend: Duluth — Superior — Hibbing — Virginia

Source: Local Area Unemployment Statistics, 2016

EMPLOYMENT BY INDUSTRY

Industry	Percent
Agriculture, Forestry, Fishing & Hunting	13%
Construction	4%
Other Services	3%
Trade, Transportation and Utilities	1%
Education and Health Services	1%
Manufacturing	0%
Public Administration	0%
Professional and Business Services	-1%
Leisure and Hospitality	-2%
Information	-3%
Financial Activities	-5%
Mining	-7%
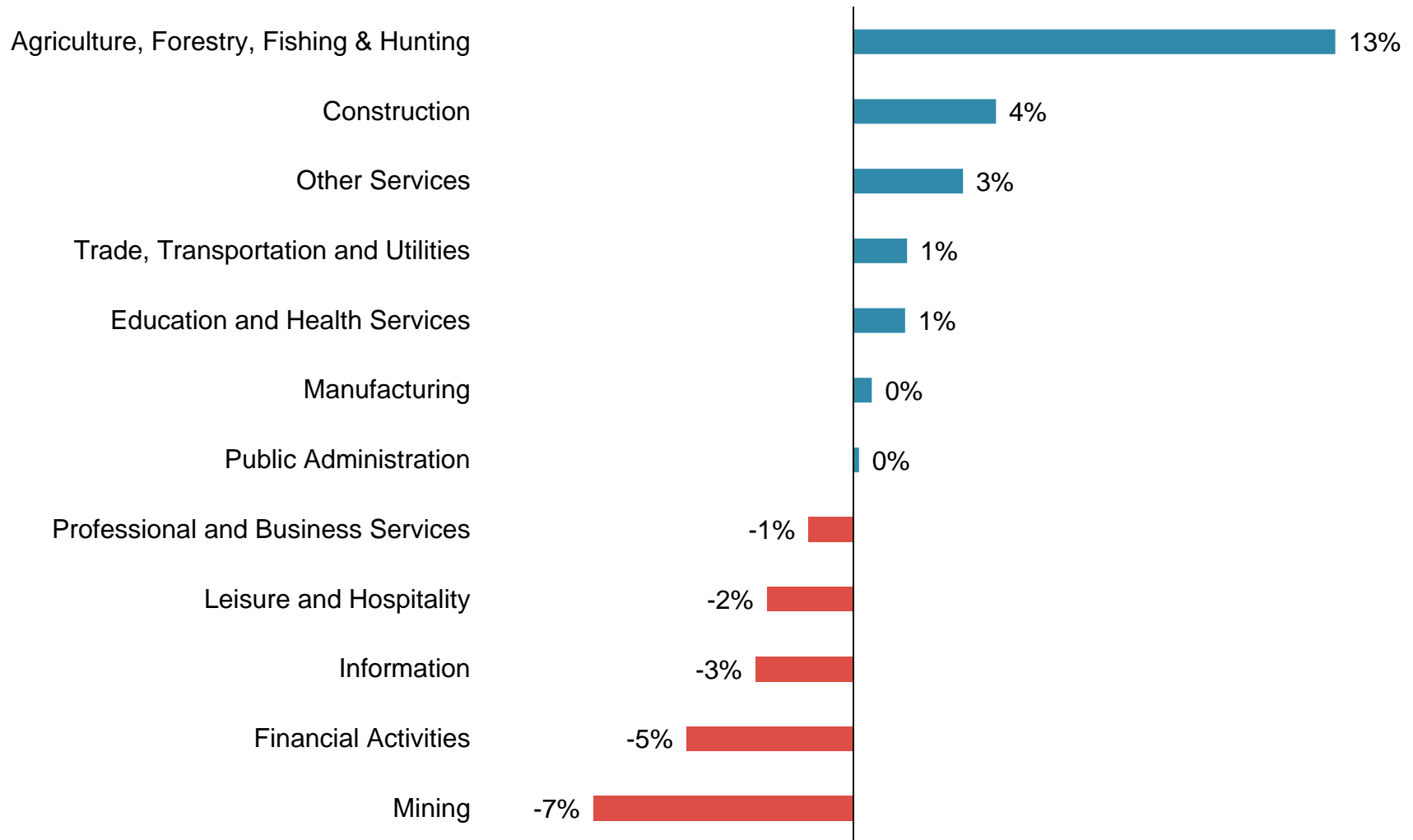
WEEKLY WAGES BY INDUSTRY

Industry	Percentage
Financial Activities	14%
Leisure and Hospitality	9%
Professional and Business Services	6%
Construction	4%
Public Administration	4%
Trade, Transportation and Utilities	4%
Manufacturing	2%
Education and Health Services	2%
Other Services	1%
Agriculture, Forestry, Fishing & Hunting	-3%
Information	-4%
Mining	-23%
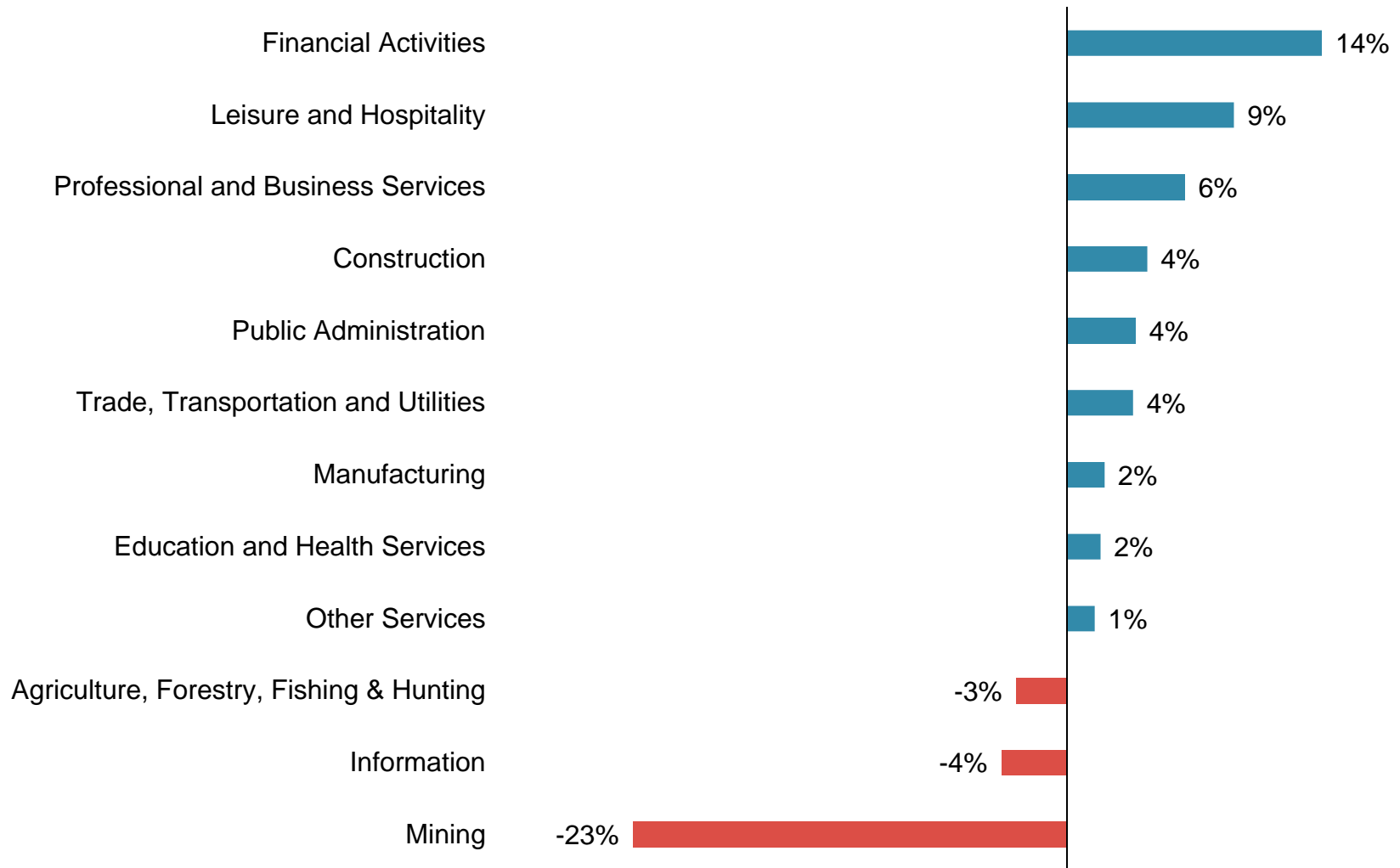
UNEMPLOYMENT INSURANCE CLAIMS

Industry	Percent
Mining	850%
Utilities	200%
Information	100%
Professional and Technical Services	83%
Wholesale Trade	72%
Management of Companies and Enterprises	48%
Administrative and Waste Services	40%
Educational Services	37%
Manufacturing	36%
Agriculture, Forestry, Fishing & Hunting	25%
Accommodation and Food Services	24%
Construction	23%
Transportation and Warehousing	19%
Finance and Insurance	8%
Public Administration	4%
Retail Trade	0%
Unclassified	-4%
Real Estate and Rental and Leasing	-9%
Health Care and Social Assistance	-11%
Other Services	-11%
Arts, Entertainment, and Recreation	-31%

CONCLUSIONS

- REIF Unemployment Rate

- "Tale of Two Areas"

- Mining Impact

- Recent News

CONSUMER CONFIDENCE INDICATORS

- **INDEX OF CONSUMER SENTIMENT (ICS)**

  Consumer outlook on personal finances, business conditions and consumption spending

- **INDEX OF CURRENT CONDITIONS (ICC)**

  Gauges current state of the economy
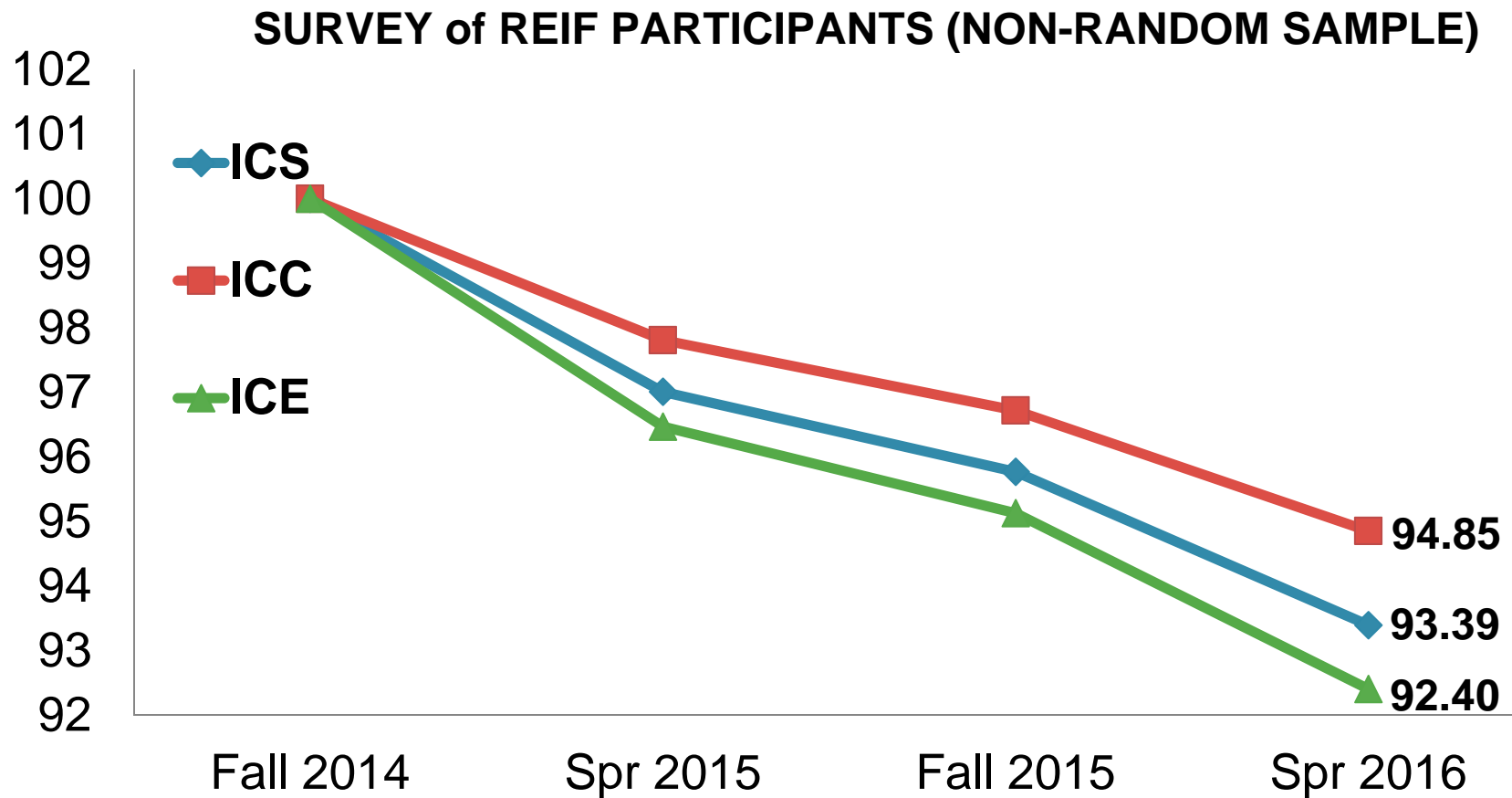
- **INDEX OF CONSUMER EXPECTATIONS (ICE)**

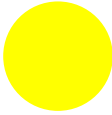 Projects future economic and financial conditions

CONSUMER CONFIDENCE INDICATORS
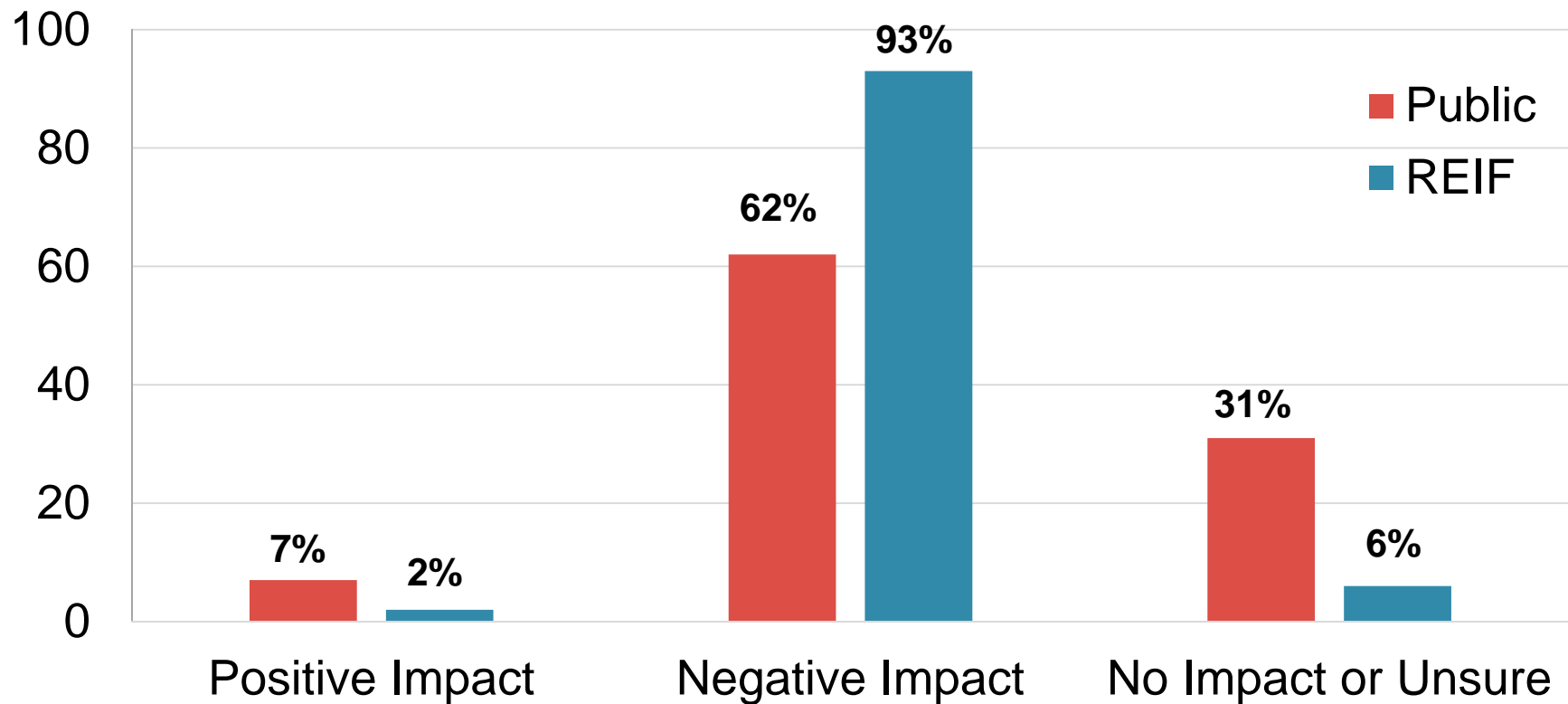
PUBLIC SURVEY (RANDOM SAMPLE)

CONSUMER CONFIDENCE INDICATORS

SURVEY of REIF PARTICIPANTS (NON-RANDOM SAMPLE)

ICS
ICC
ICE

	Fall 2014	Spr 2015	Fall 2015	Spr 2016
ICC	100	97.8	96.7	94.85
ICS	100	97	95.8	93.39
ICE	100	96.4	95.1	92.40
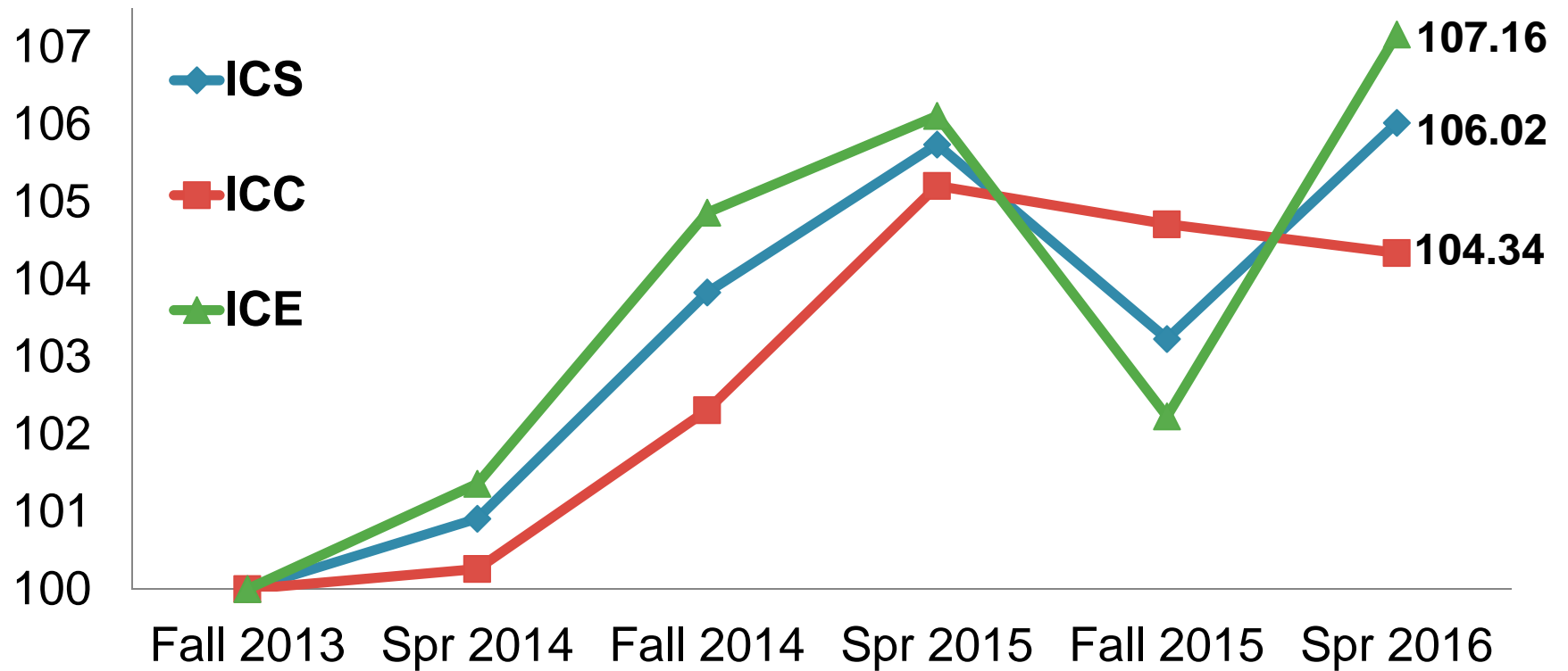
CONSUMER CONFIDENCE INDICATORS

Indicator		Public Survey (Random)	REIF Survey (Non-Random)
ICS		Rising optimism about short-term economic outlook	Weakening short-term economic outlook
ICC		Economy is slowing down	Economy is slowing down
ICE		Expectations of continued economic expansion	Expectations of future economic slowdown

IMPACT OF MINING LAYOFFS
ON LOCAL REGION

% of Respondents

- Public
- REIF

Positive Impact — 7%, 2%
Negative Impact — 62%, 93%
No Impact or Unsure — 31%, 6%

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University of Wisconsin, Superior

LENGTH OF THE IMPACT
OF MINING LAYOFFS

% of Respondents
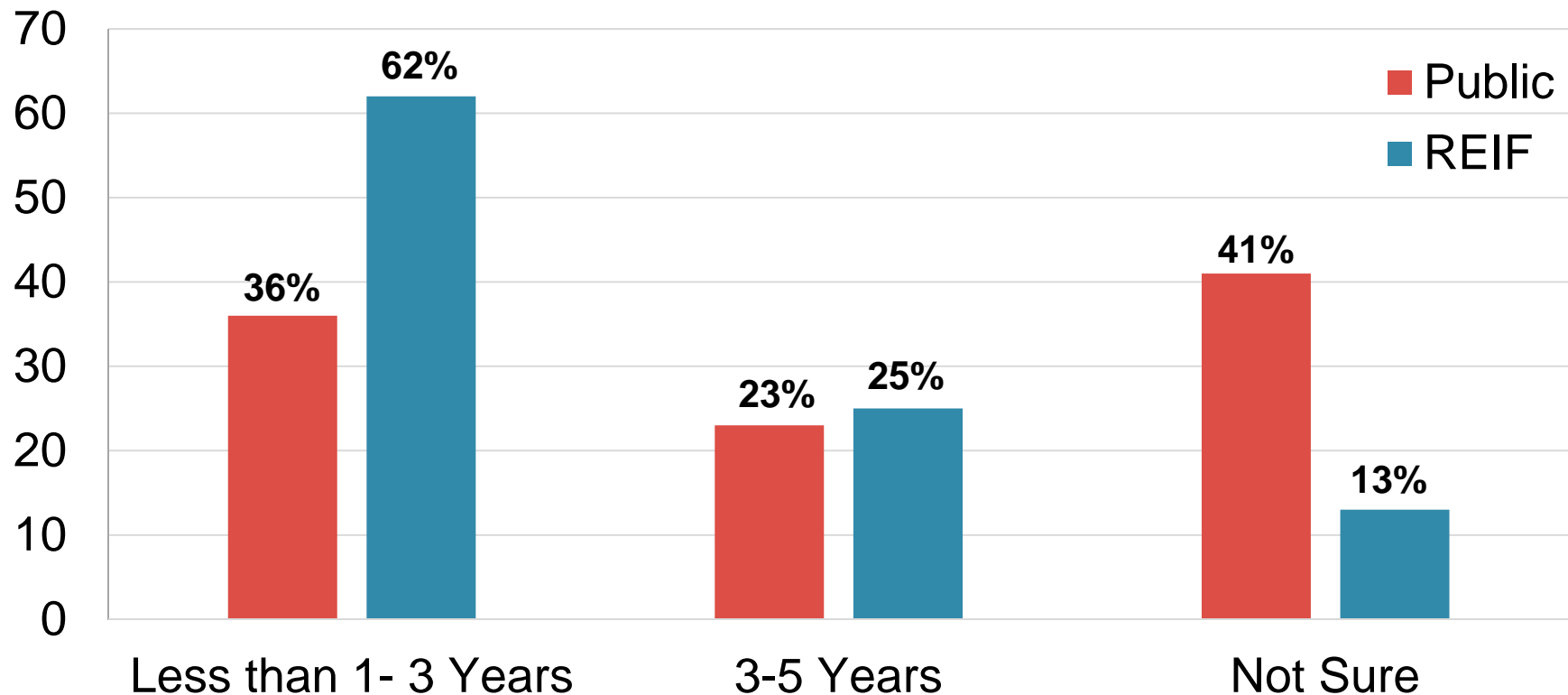
REGIONAL EQUITY INDEX

Donald Simmons

University of Wisconsin-Superior

REGIONAL EQUITY INDEX

Methodology

- Equally weighted index
- 12 companies with significant employment in the region

Allete	Cliffs Natural Resources	Polymet
Ascena Retail Group	Enbridge Energy Partners	Sappi Limited
Calumet	Ikonics	UnitedHealth Group
Canadian National Railway	Louisiana-Pacific	US Steel

REGIONAL EQUITY INDEX

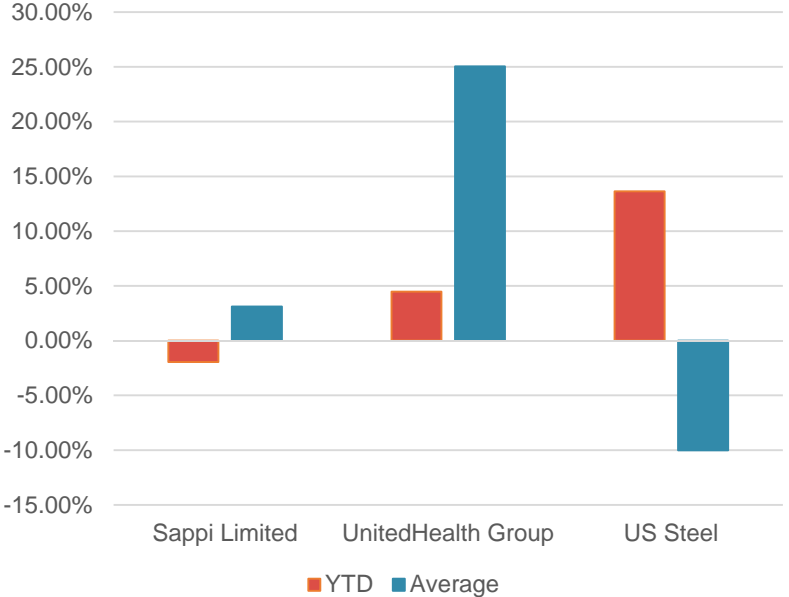### YTD Returns vs. Previous Performance
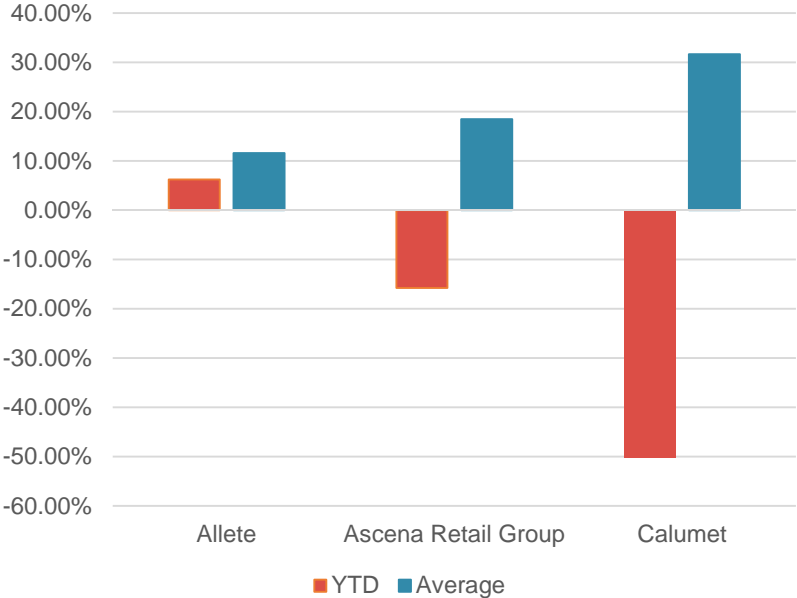
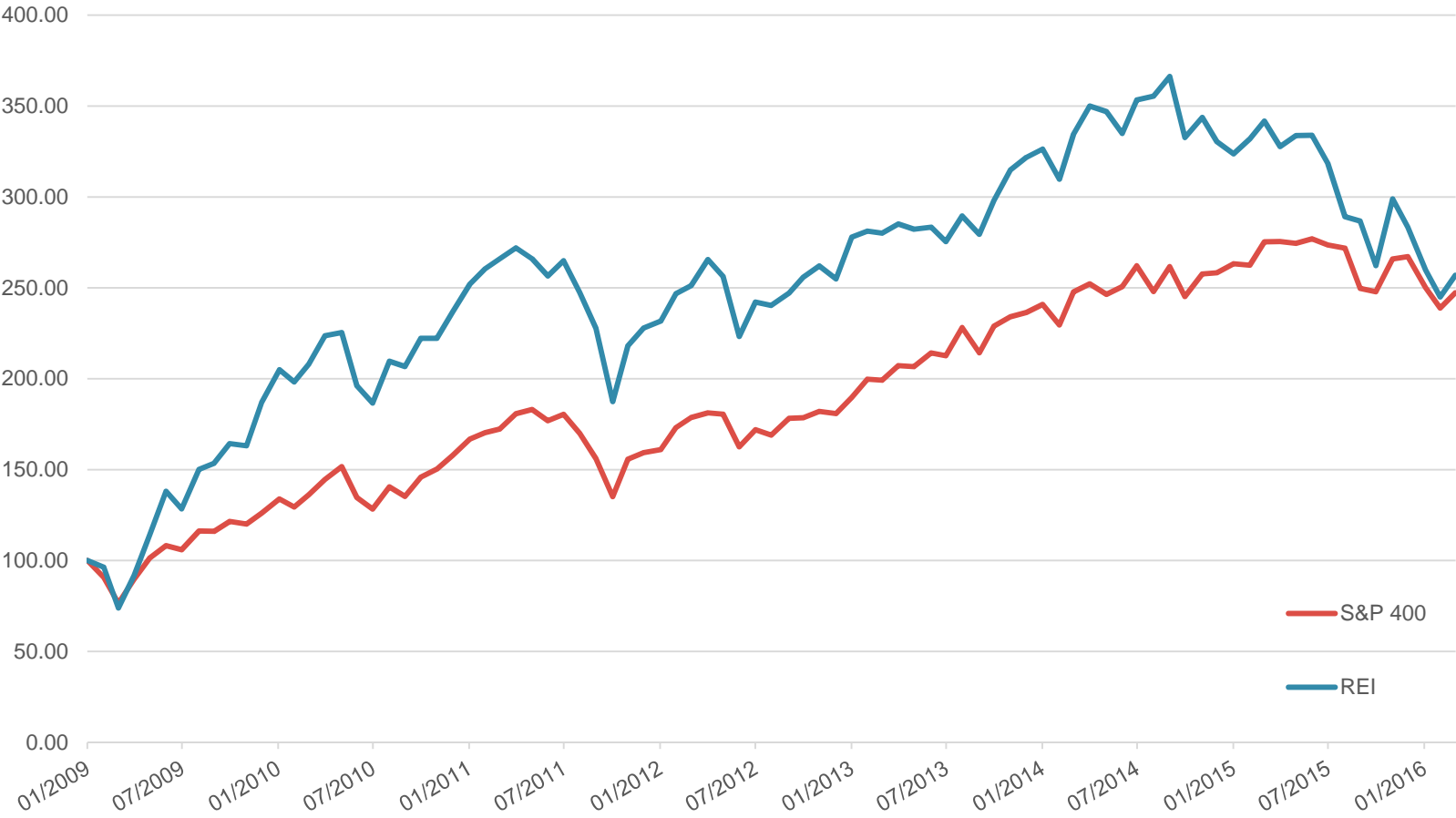### YTD Returns vs. Previous Performance
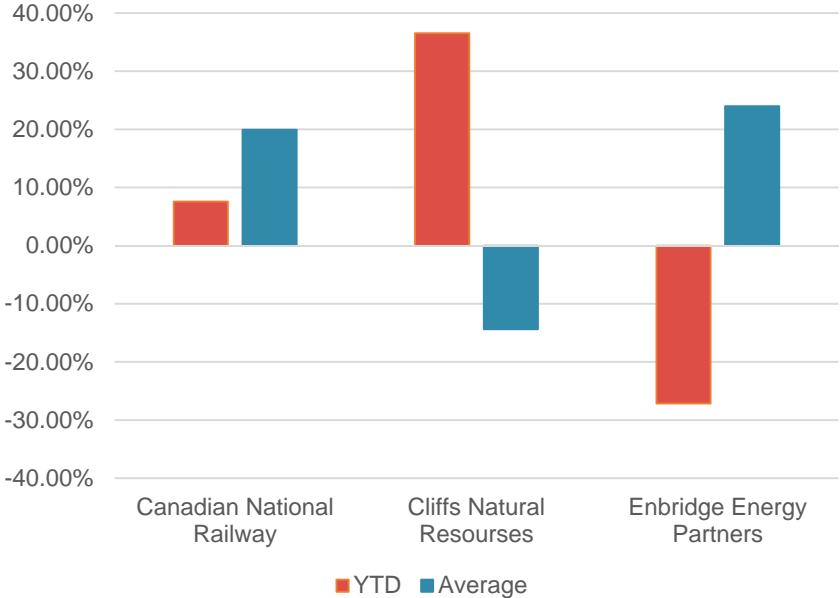
REGIONAL EQUITY INDEX

YTD Returns vs. Previous Performance
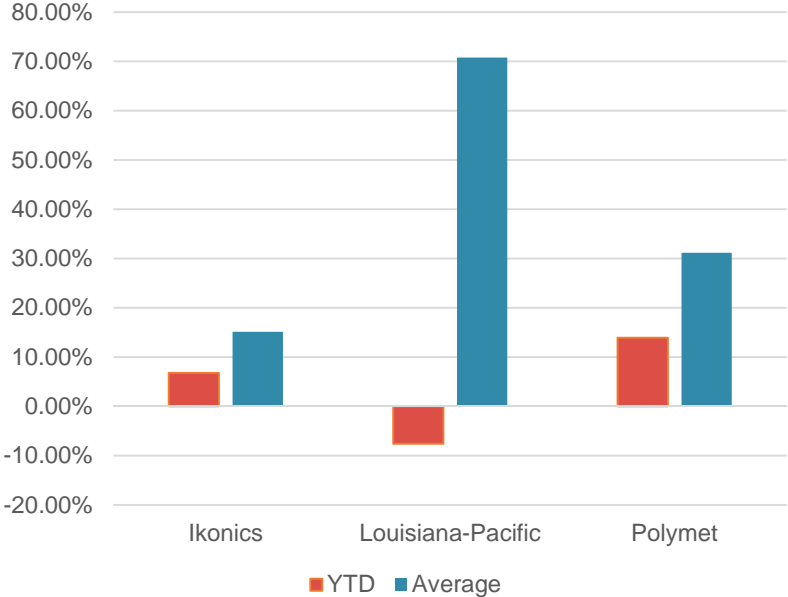
YTD Returns vs. Previous Performance

REI VS S&P 400 INDEX

S&P 400
REI

SUMMARY OF FINDINGS

Performance Indicator	Major Findings
REI vs S&P 400	REI underperforming compared to the benchmark
Value Line®	• REI: Average to below-average expected price performance over the next 6-12 months • Average to above-average risk • Average to below-average expected price change over the next 3-6 months
Morningstar®	Average short interest ratio is up slightly to 6.89
Overall implications:	**Underperformance relative to benchmark expected to continue**

BUSINESS CONFIDENCE INDICATORS

James Hinrichs

The School of Business and Technology, Economics
Department
The College of St. Scholastica

CONFIDENCE INDICATOR

Fall 2014	110
Spring 2015	108
Fall 2015	108
Spring 2016	**109**

GENERAL BUSINESS CONFIDENCE

Last 6 Months

- Company Outlook
  - 35% saw an overall improvement
  - 31% saw their outlook worsen

- General Activity
  - 36% saw an improvement
  - 37% saw a decline

Next 6 Months

- Company Outlook
  - 20% anticipate a decline in the outlook
  - 42% expect an improvement

- General Activity
  - 44% anticipate an improvement
  - 24% expect a decline

SPECIFIC CONFIDENCE INDICATORS

Last 6 Months

- Sales Revenue
  - 36% saw a moderate increase
  - 27% experienced an overall decrease

- Profits
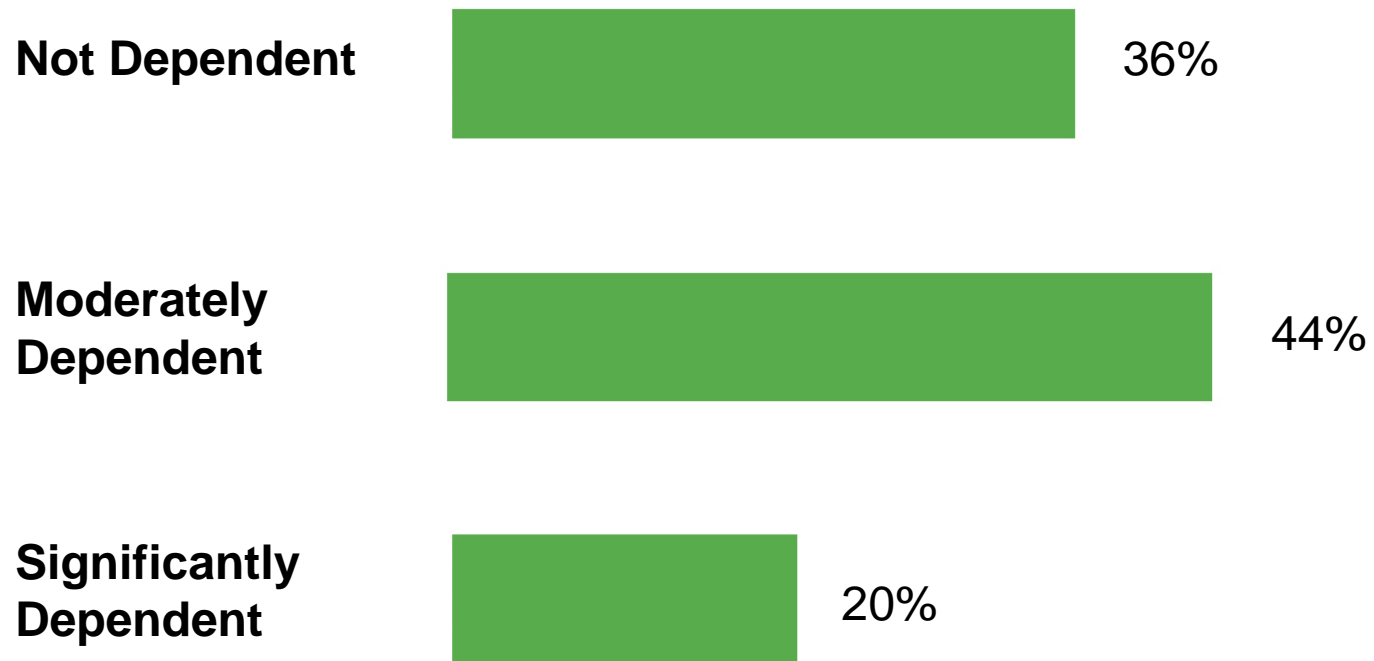 - 31% experienced a decline
  - 32% saw an overall increase

Next 6 Months

- Sales Revenue
  - 47% anticipate an increase
  - 16% expect a decrease

- Profits
  - 41% anticipate an increase
  - 17% expect a decline

FACTORS LIMITING BUSINESS ACTIVITY

Demand 38%

Government Policy 27%

Mining Industry 25%

Competition in own sector 28%

Shortage of skilled labor 17%

Cost of Labor 16%

Cost of Materials 9%
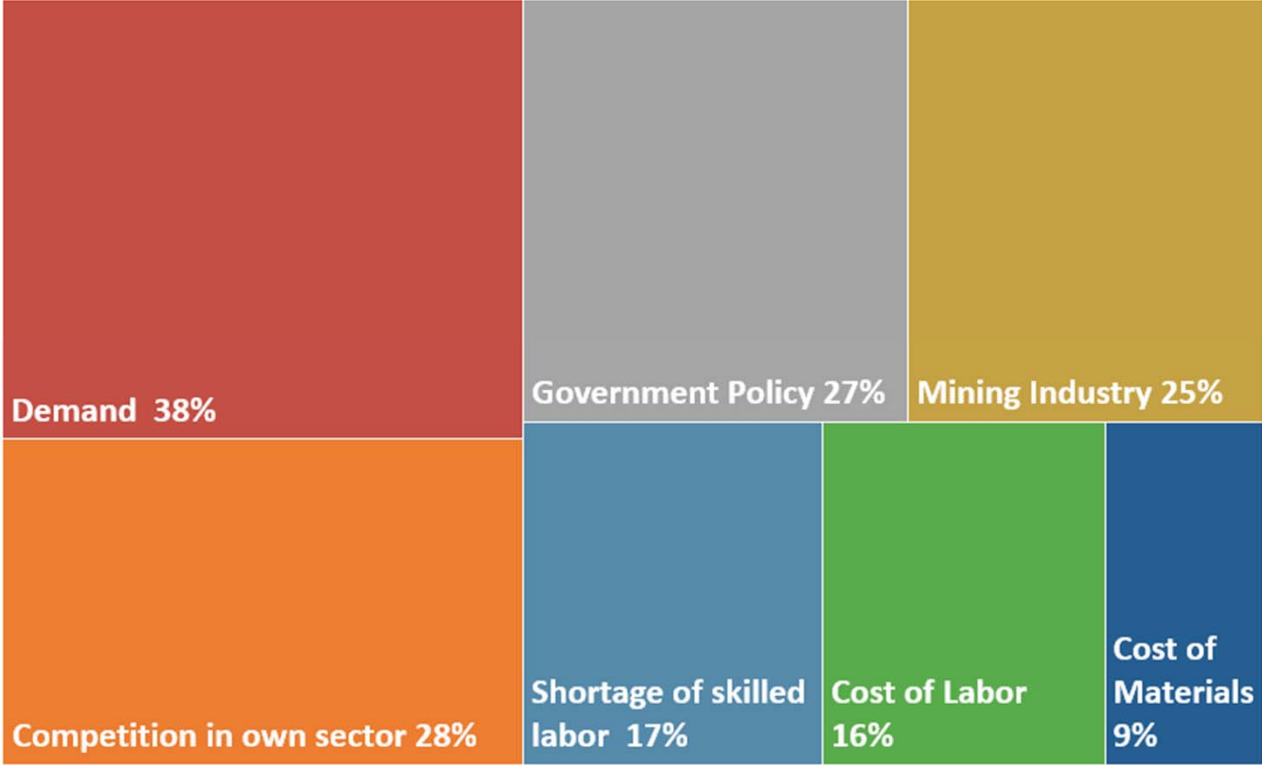
BUSINESS DEPENDENCE ON THE MINING SECTOR

Not Dependent 36%

Moderately Dependent 44%

Significantly Dependent 20%

SPECIFIC EFFECTS OF THE DECLINE IN THE MINING SECTOR

Last 6 Months

- Sales Revenue
  - 36% experienced a negative impact

- Number of Employees
  - 15% saw a reduction

- Level of General Business Activity
  - 32% reported a moderate decrease
  - 10% experienced a significant decrease

SUMMARY OF STUDENT PRESENTATIONS

- Regional economic health depends greatly on location, industry (Tale of Two Areas)
- Consumer confidence mixed
- Regional stocks are underperforming
- Business confidence remains high

TEXT YOUR QUESTIONS
at any time during this presentation to

218.721.8318

TOBY MADDEN

Economist and Founder of Power Parametrics

Toby is an experienced economist, speaker, author, consultant, and the founder of Power Parametrics LLC, a boutique financial advising firm that uses statistical models and surveys to forecast the economy. With over 20 years of experience at the Federal Reserve Bank of Minneapolis, he recently authored the book Club Fed, which takes an inside look at the good, the bad, and the fixable of the Federal Reserve.

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www.tobiasmadden.com

Are you prepared?

Agenda

- Overall Economy

- Mining

- Are you Prepared?

World Economy Continues to Grow

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Constant GDP per capita for the World

(2005 U.S. Dollars)
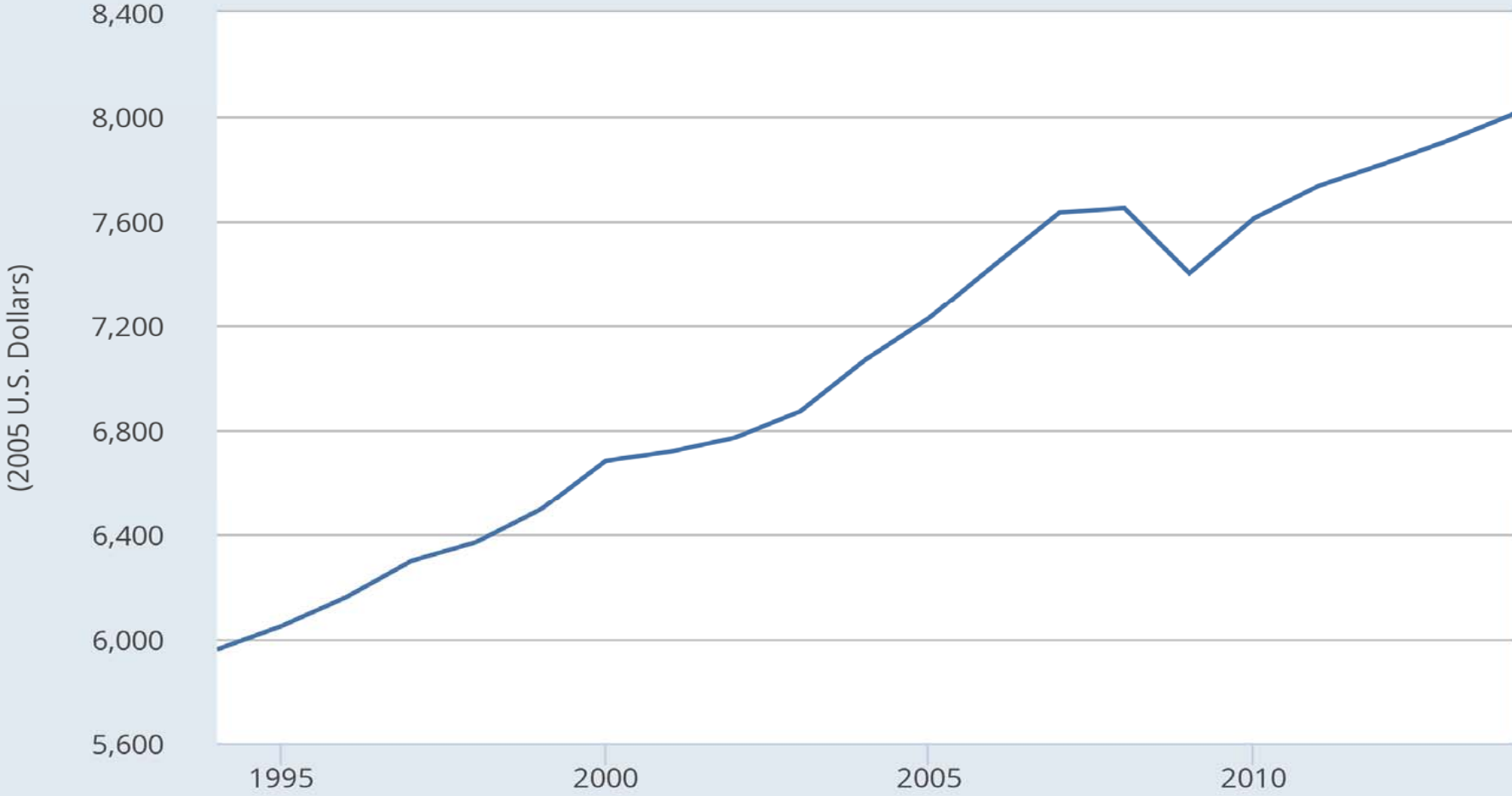
Source: World Bank

research.stlouisfed.org

myf.red/g/3F5t

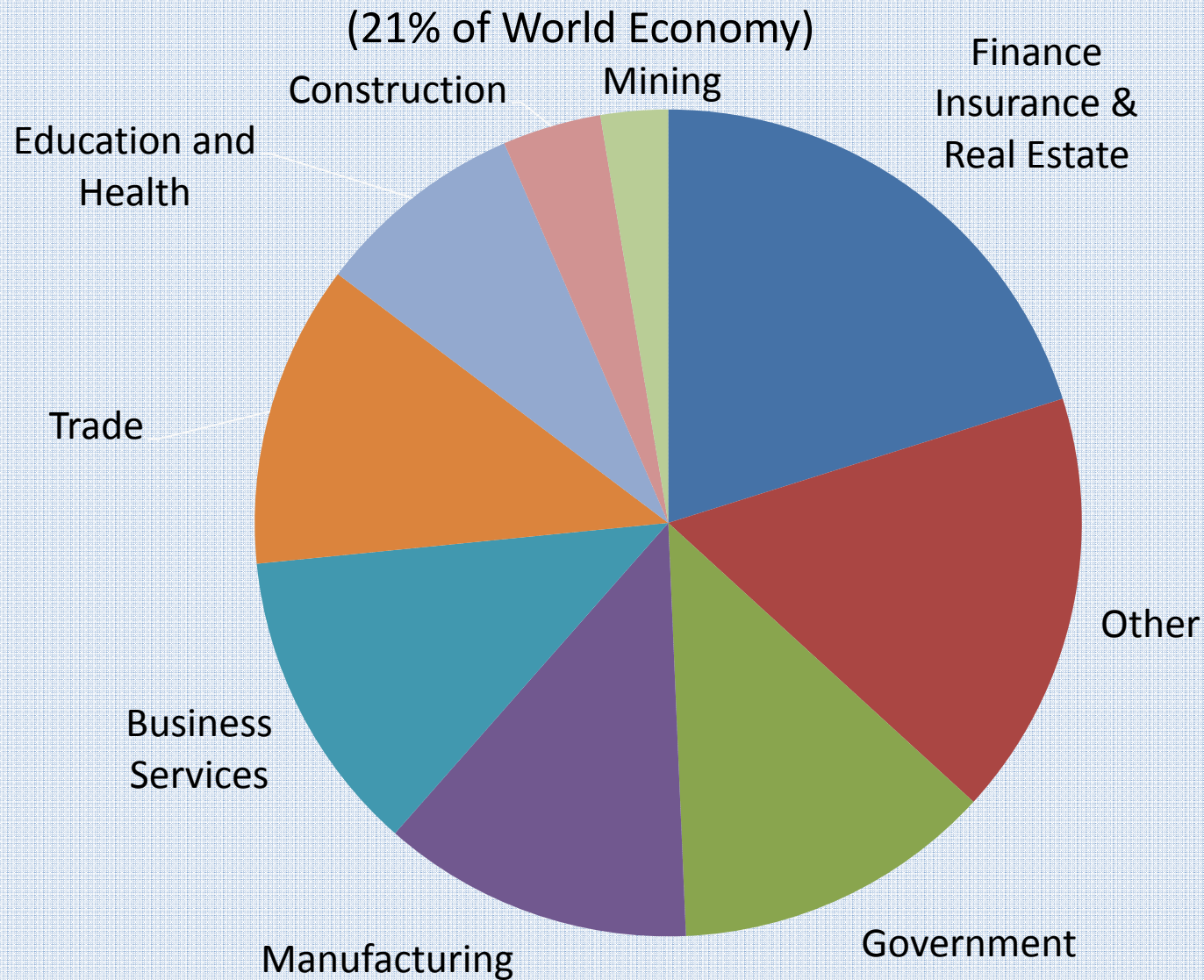# U.S. economy is in a long expansion

Real Gross Domestic Product
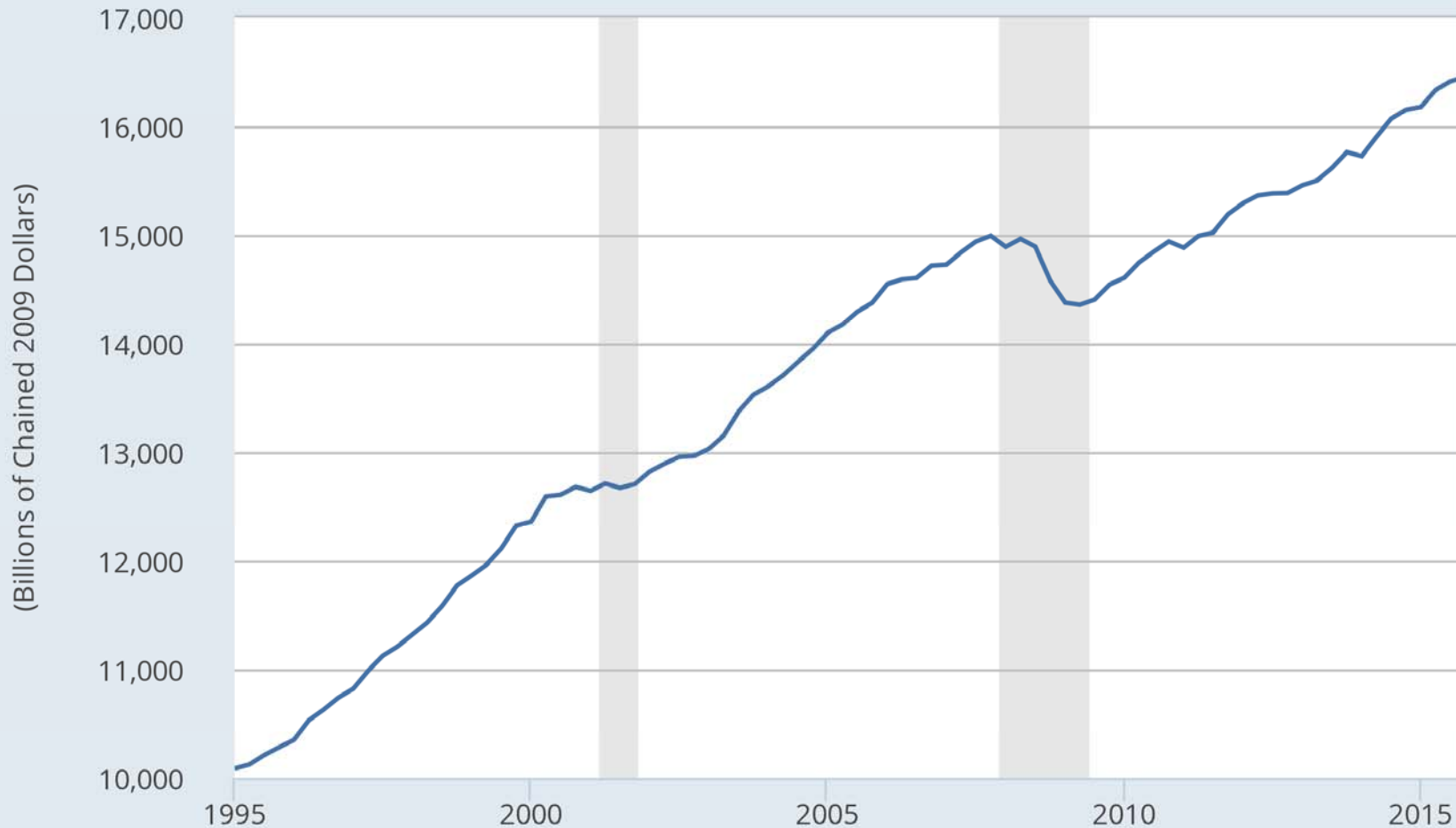
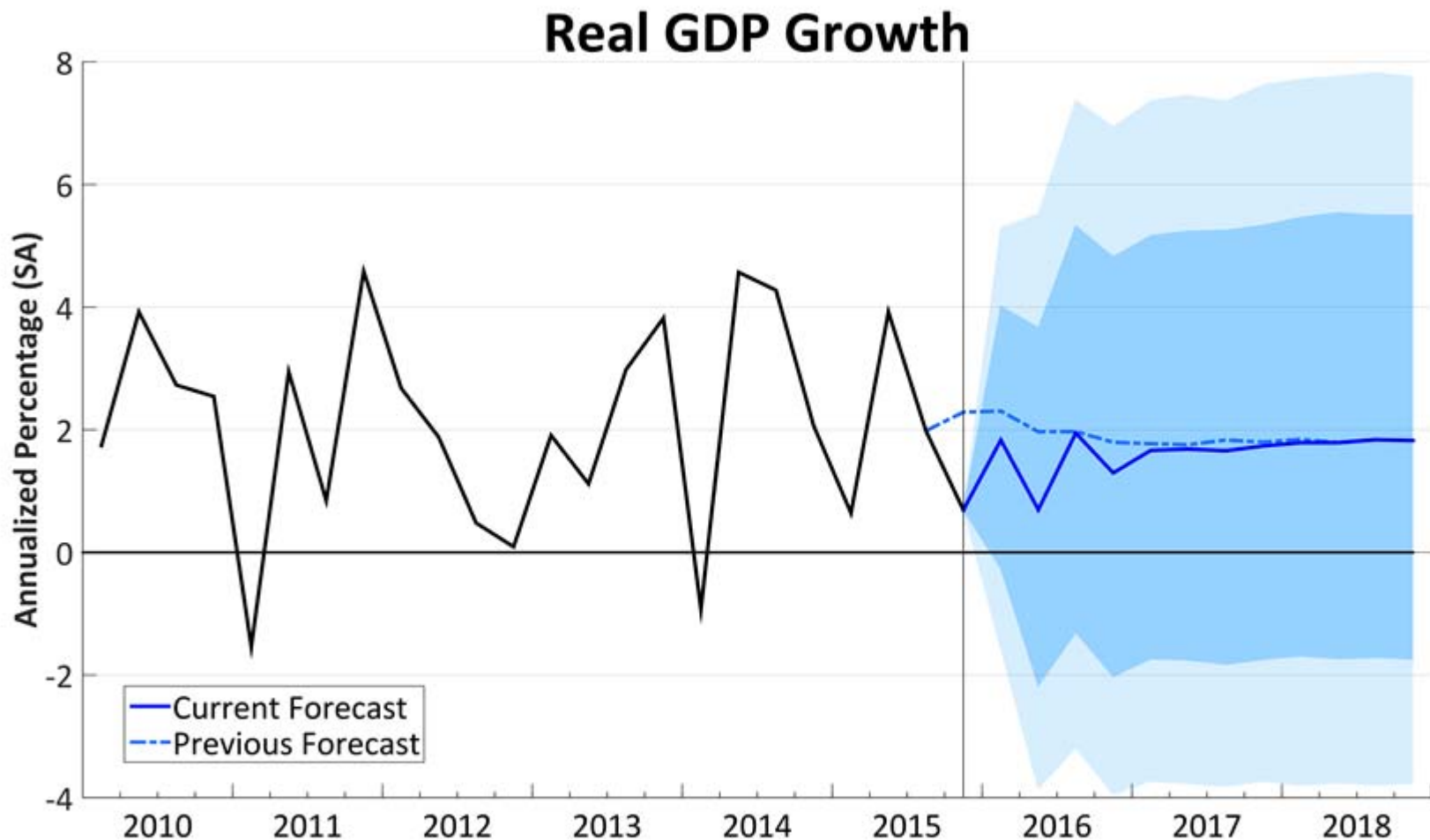Source: US. Bureau of Economic Analysis

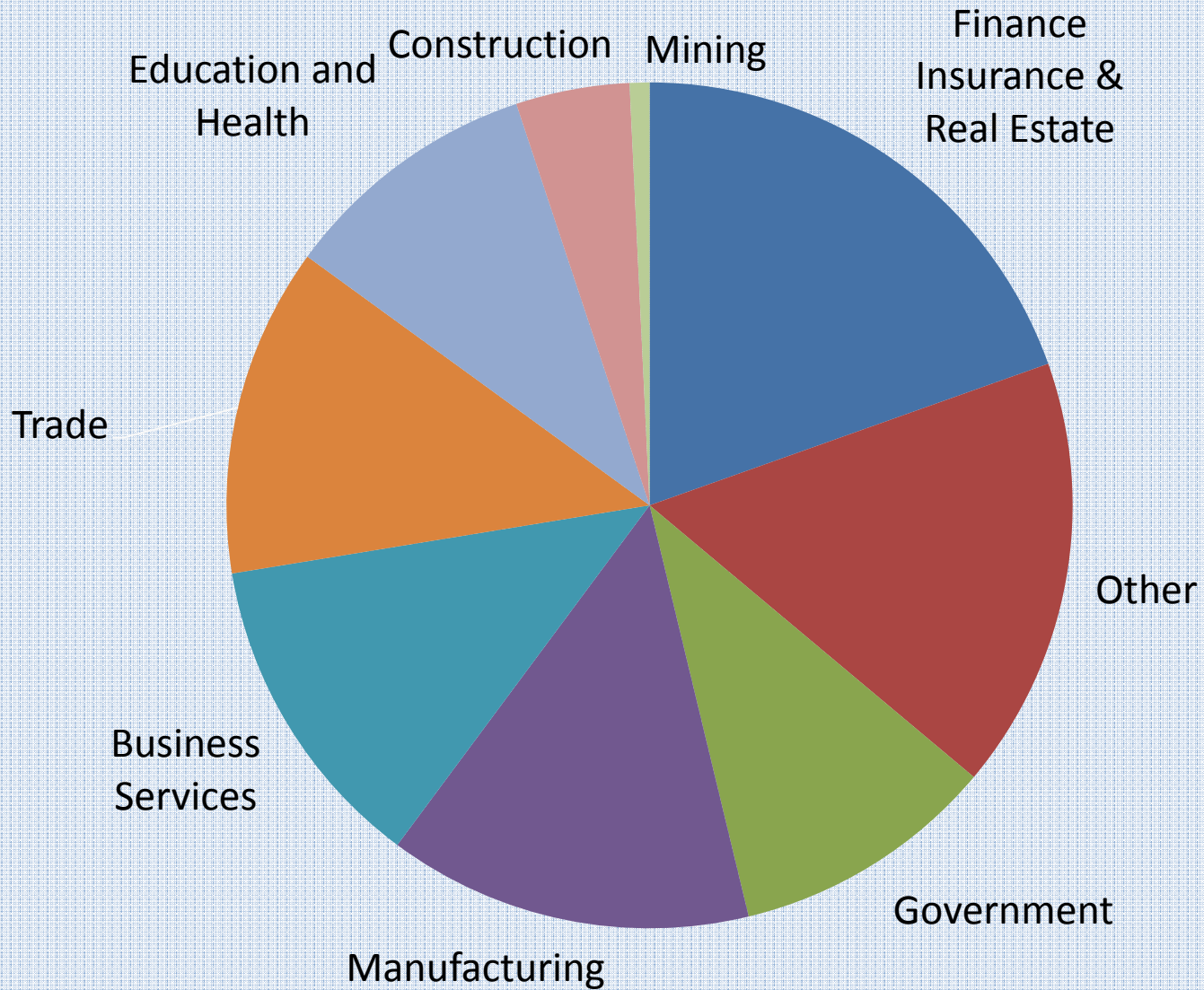research.stlouisfed.org

myf.red/g/3oG2

United States GDP ($17 t)

(21% of World Economy)

Construction — Mining
Education and Health
Trade
Business Services
Manufacturing — Government
Finance Insurance & Real Estate
Other

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Slow Growth is Expected in U.S.

Real GDP Growth

The darker blue region represents the 70 percent probability band corresponding to the current forecast; the lighter blue region represents the 90 percent probability band.

Source: Minneapolis Fed

Minnesota GDP ($317b)

(2% of U.S. Economy)

Finance Insurance & Real Estate, Other, Government, Manufacturing, Business Services, Trade, Education and Health, Construction, Mining

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Regional Economy Constrained
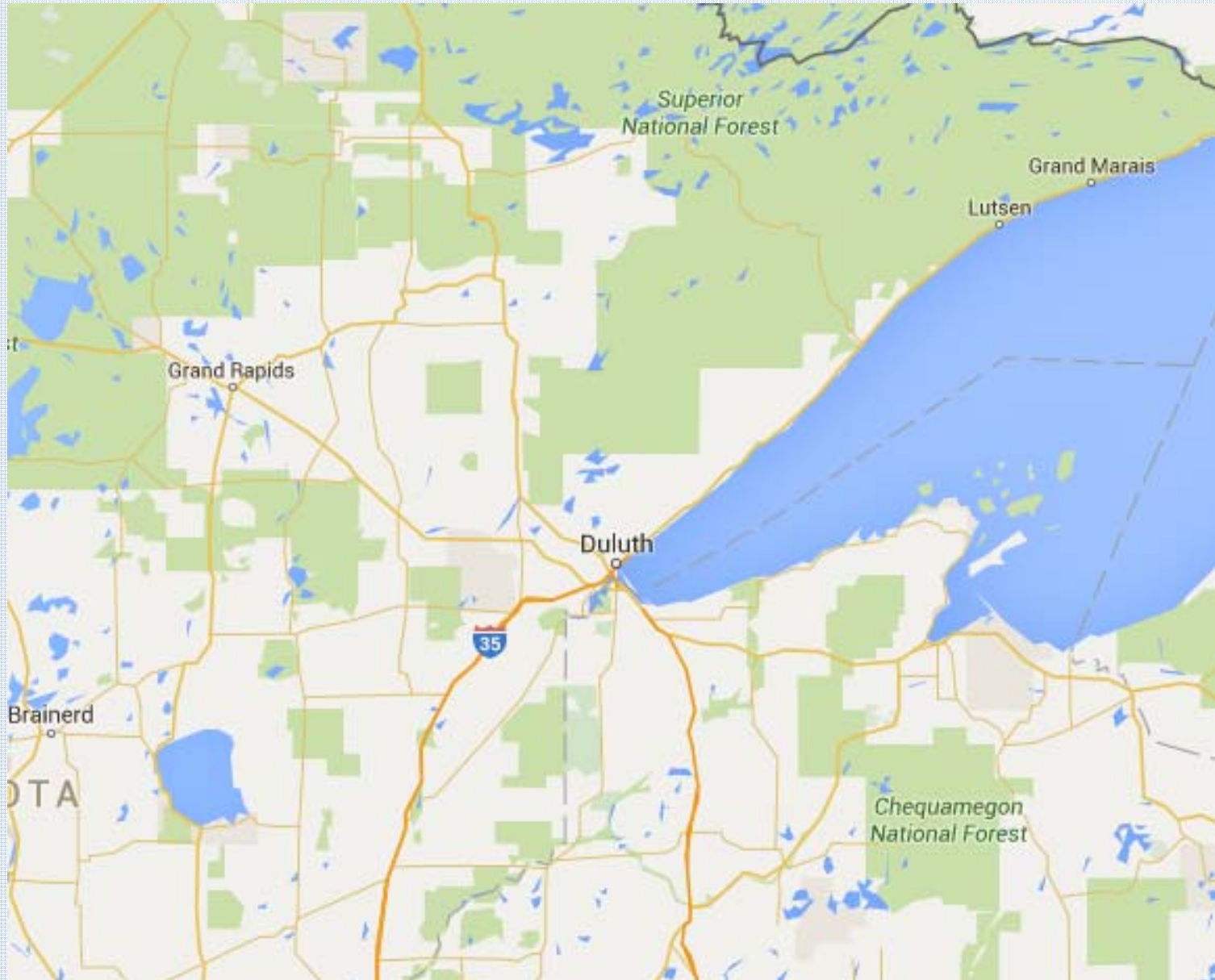
Duluth MSA GDP ($12 b)

(4% of Minnesota Economy)

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Pie chart labels: Mining, Finance Insurance & Real Estate, Other, Government, Manufacturing, Business Services, Trade, Education and Health, Construction

DULUTH/SUPERIOR

Mining

Construction

Finance Insurance & Real Estate

Other

Education and Health

Government

Trade

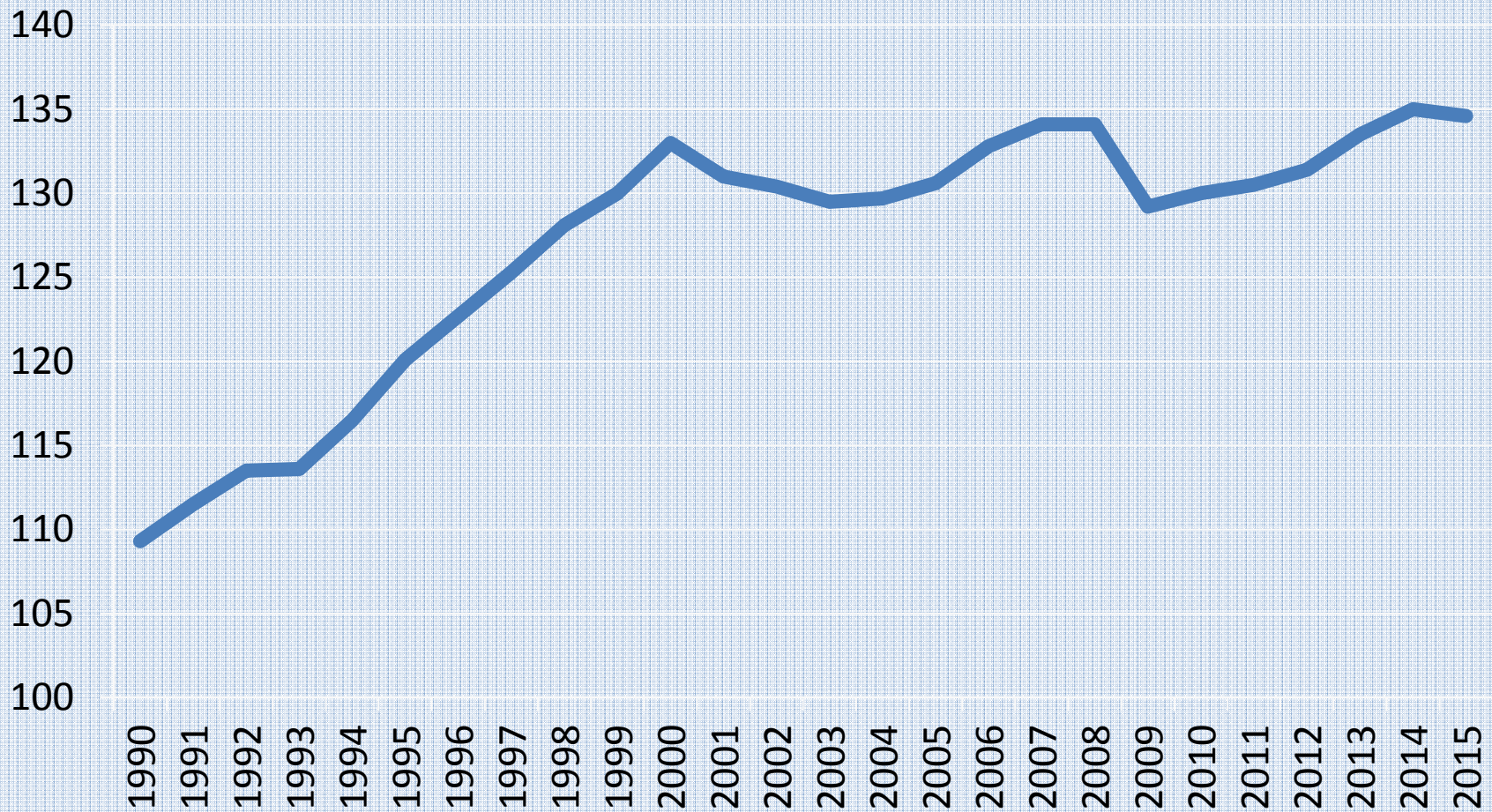Business Services

Manufacturing

U.S.
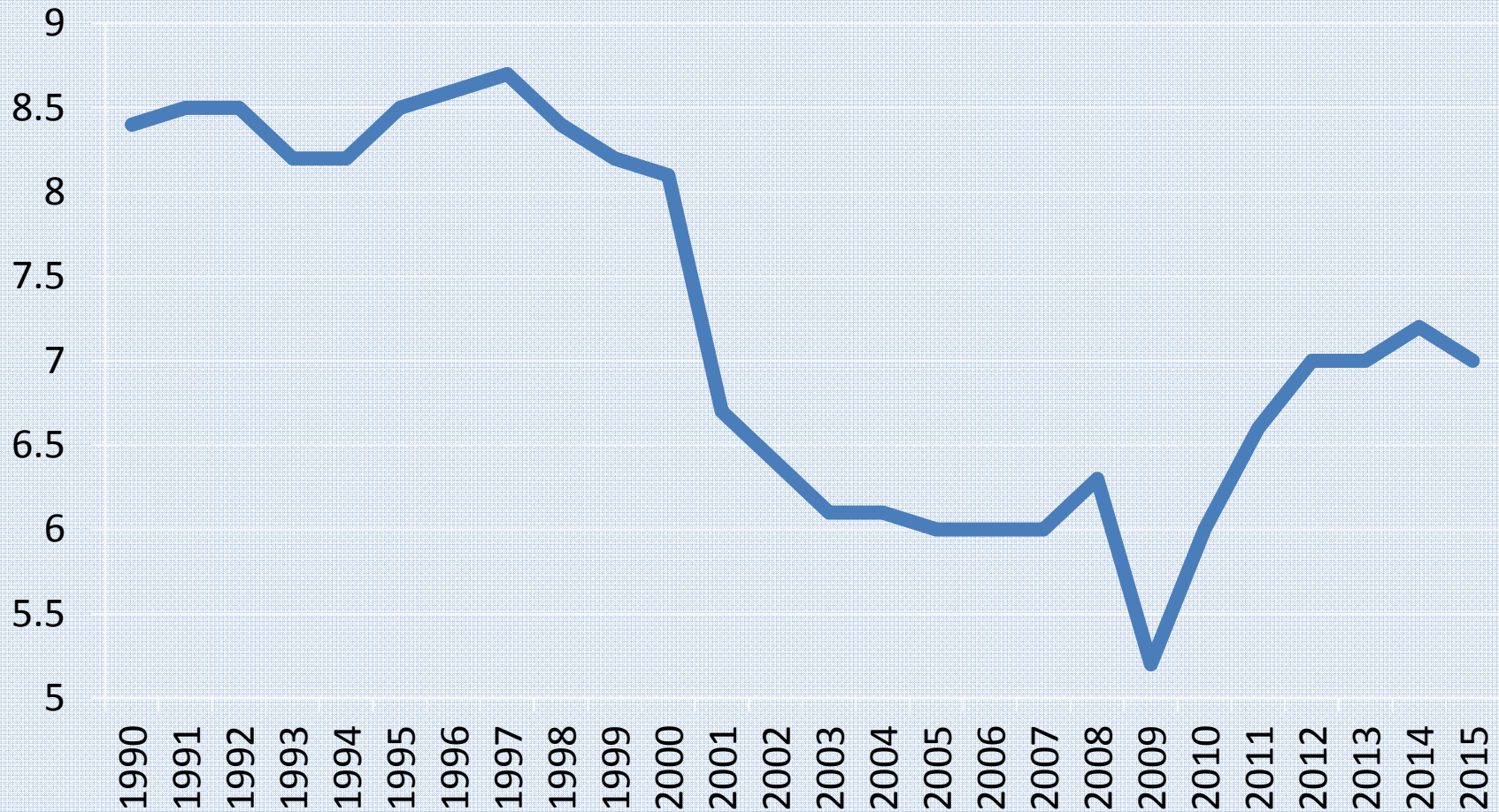
MN
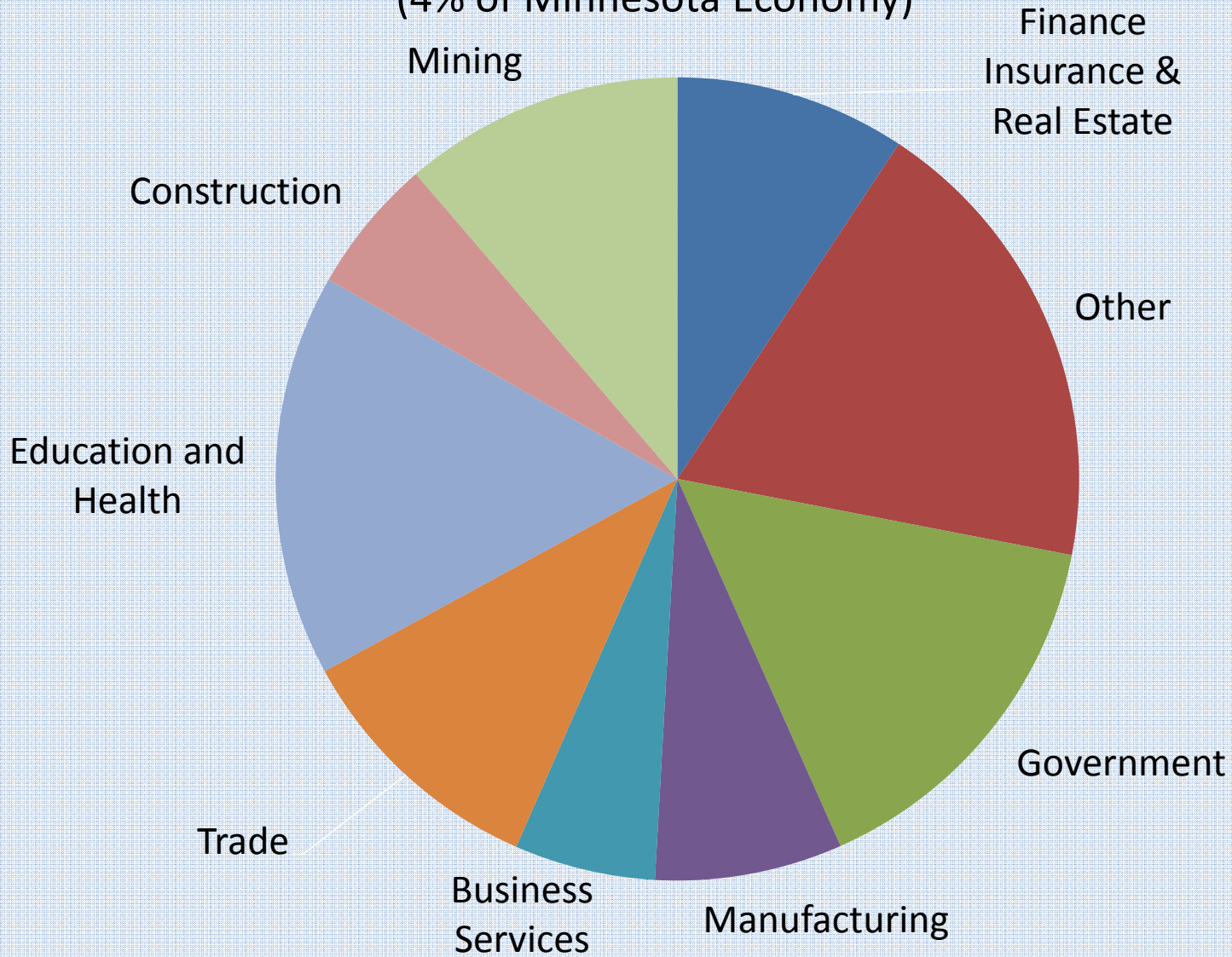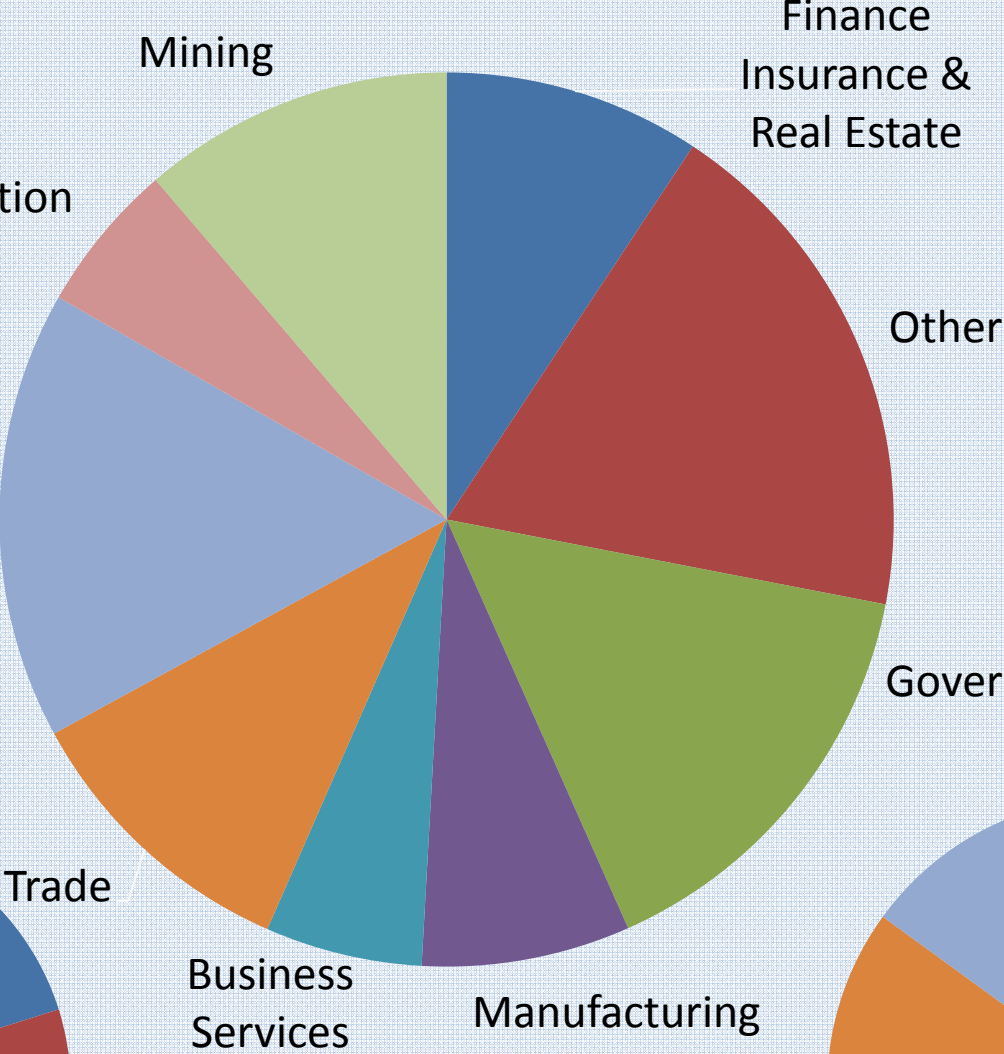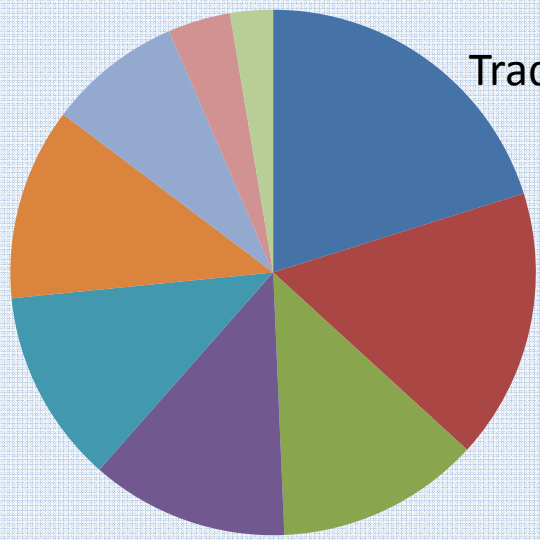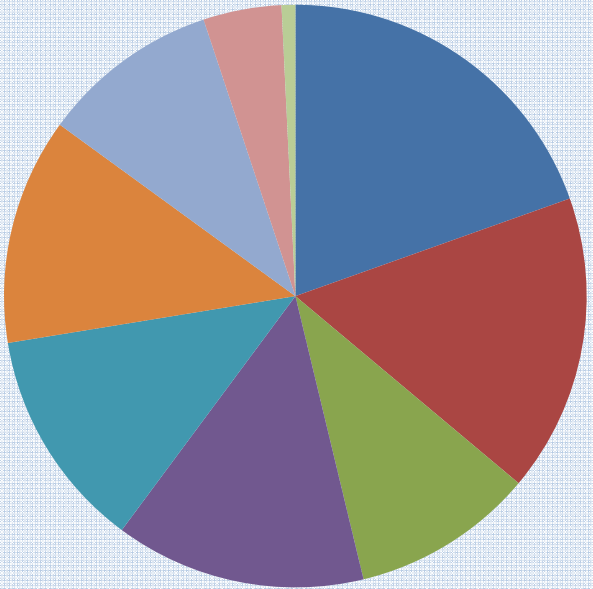
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Duluth Area Employment

(in thousands)

Source: BEA.gov

MN Mining & Logging Employment

(in thousands)

Source: BEA.gov

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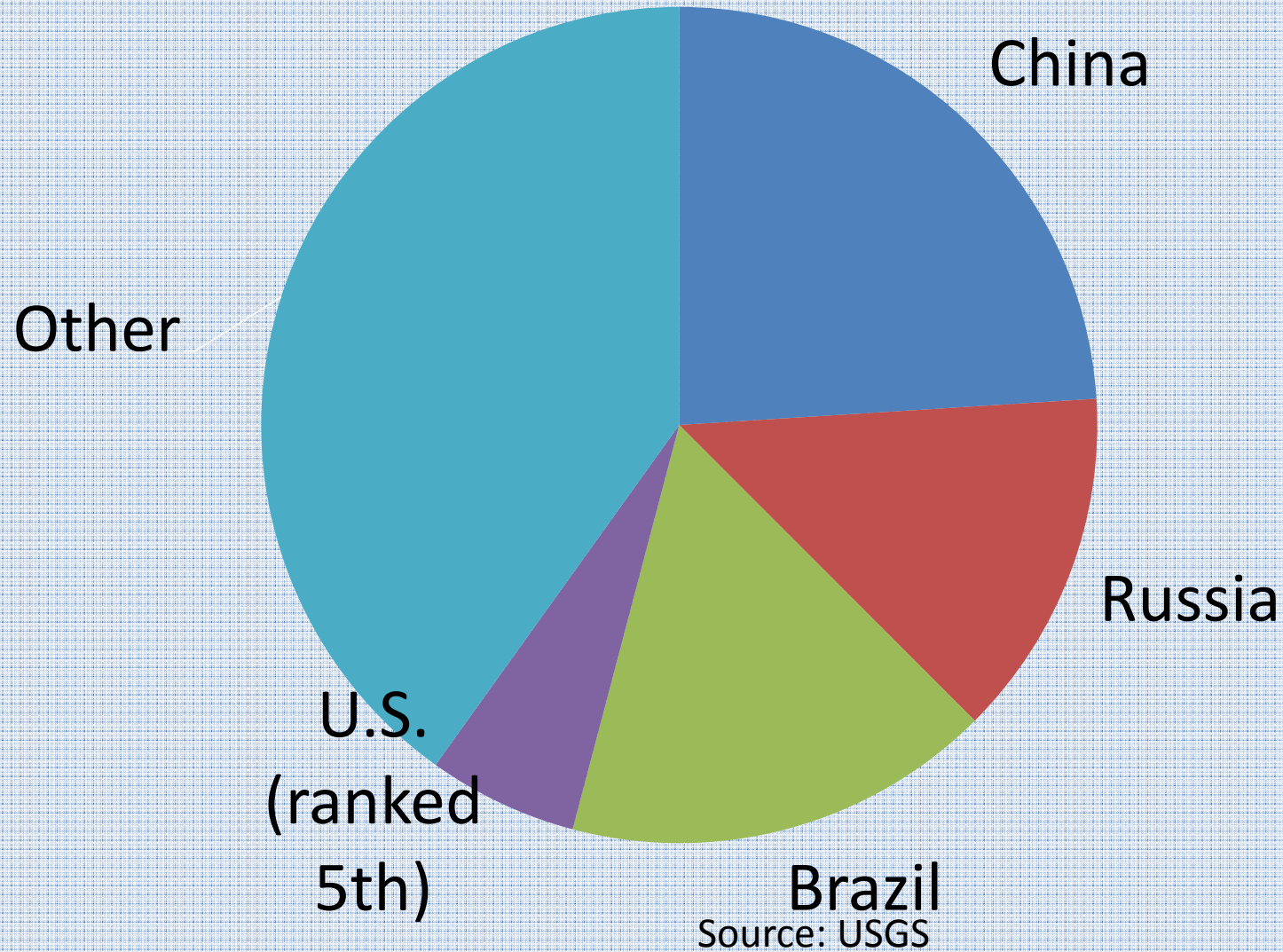# THE IRON RANGES OF THE LAKE SUPERIOR REGION

94° 92° 90° 88°

N

Canada
U.S.A.

Ontario

GUNFLINT RANGE (inactive)

48°

VERMILLION
RANGE
(inactive)

Minnesota

MESABI RANGE

(7 active mines)

47°

Lake Superior

47°

Duluth

MARQUETTE
RANGE

CUYUNA RANGES
(inactive)

GOGEBIC RANGE

Michigan

(2 active mines)

(inactive)

IRON RIVER-CRYSTAL FALLS
(inactive)

46°

MENOMINEE RANGE

Wisconsin

0   100 Km
0   50 Miles

92° 90° 88° (inactive)
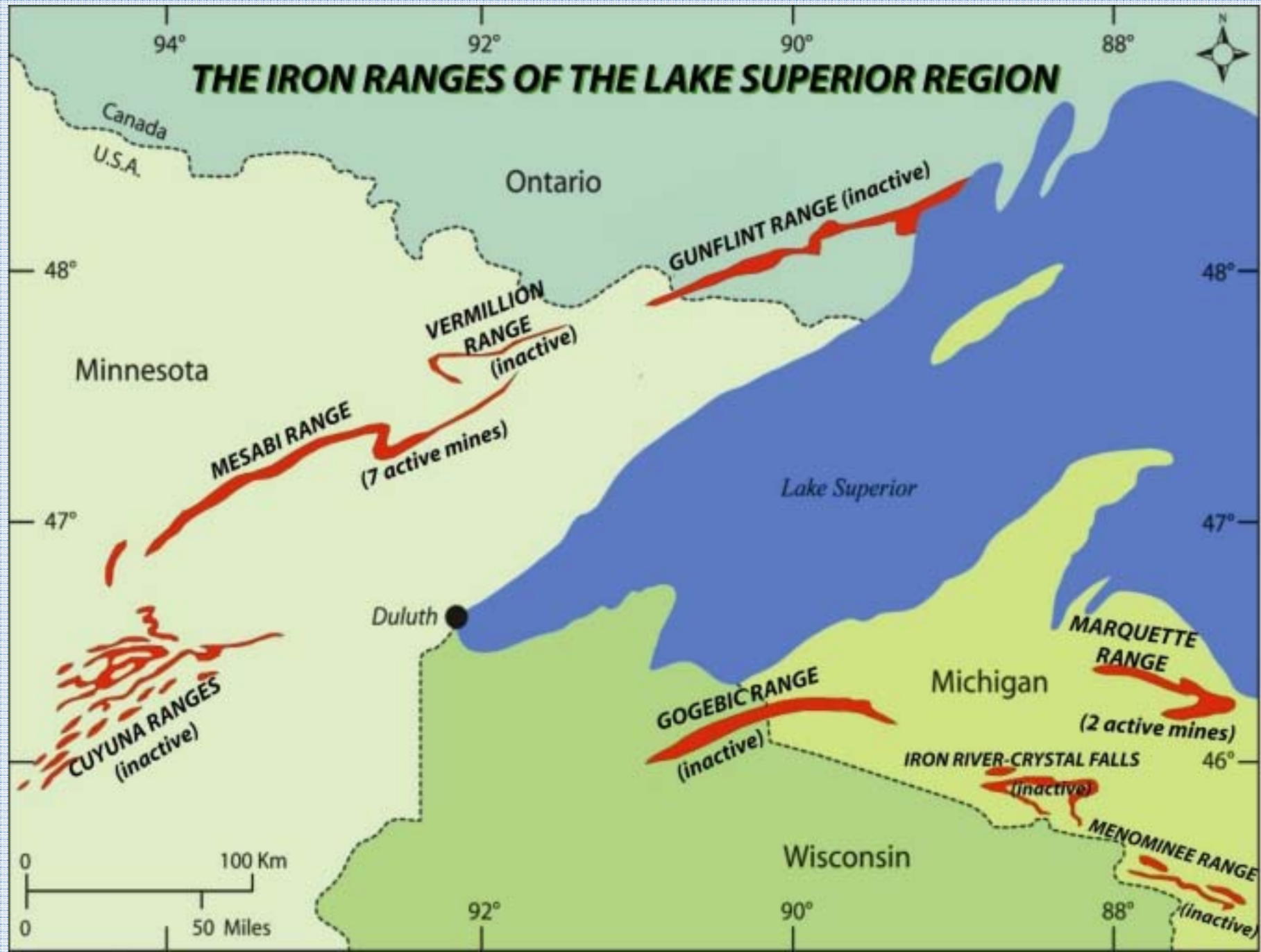
Iron Ore Prices

($ per ton)
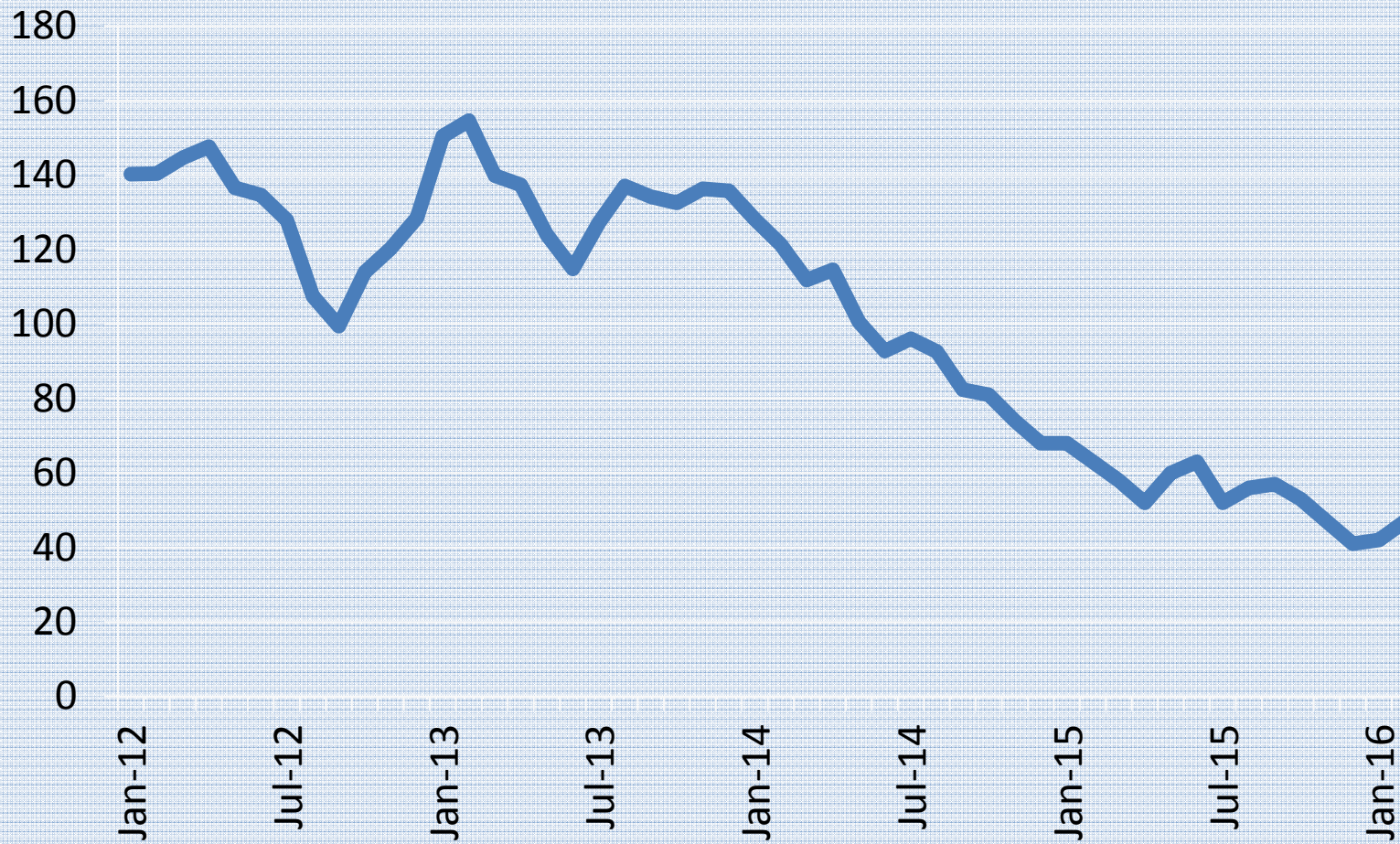
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Source: WorldBank

Iron Ore Production
(1.0 b tons (1994))

China
Russia
Brazil
U.S. (ranked 5th)
Other

Source: USGS

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Cleveland Cliffs Stock Price
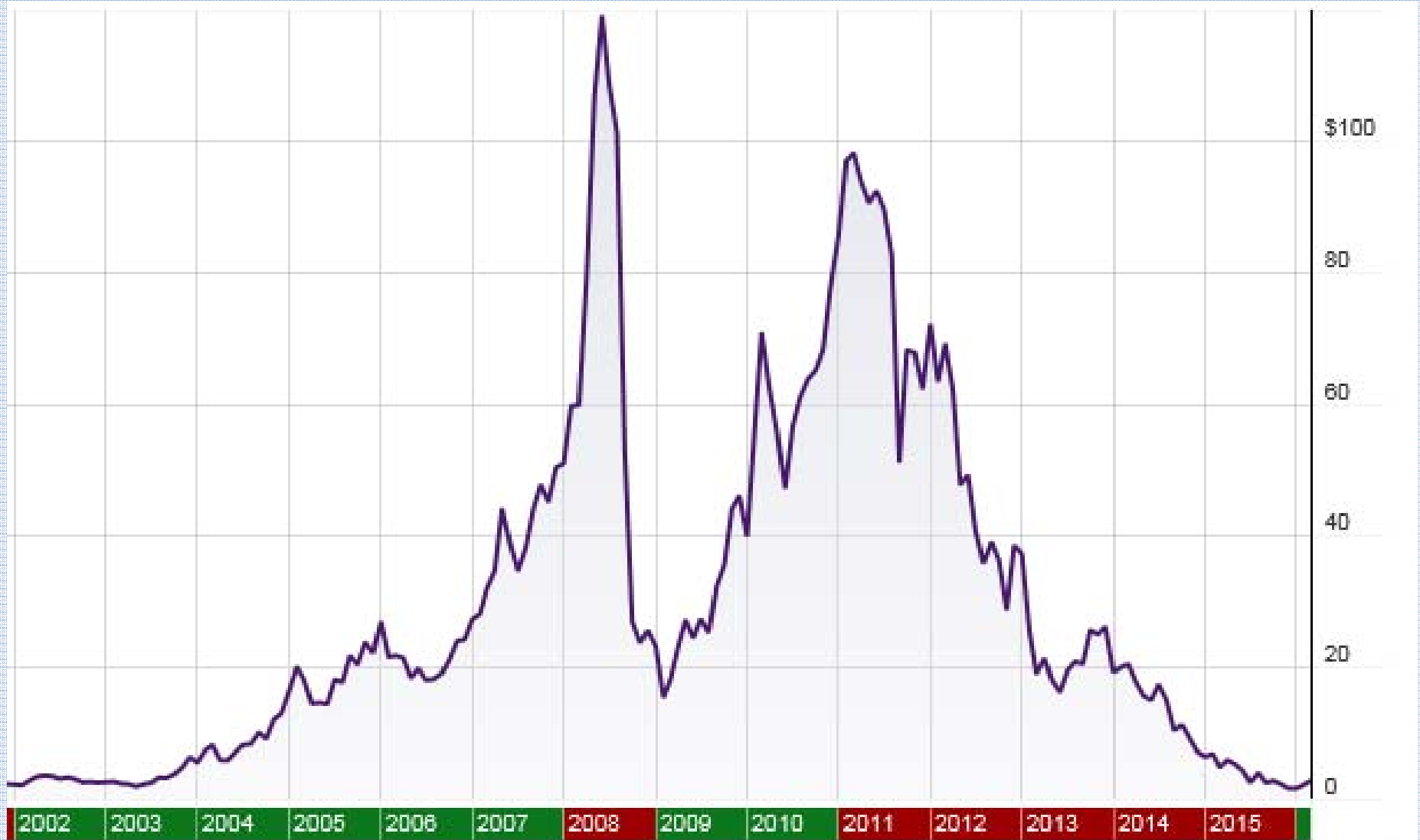
Source: Yahoo Finace

Iron Ore Production (3.3b tons (2015))

Other

U.S. (ranked 8th)

Brazil

Australia

China

Source: USGS

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Steel Production
(0.7 b tons (1994))

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China

Japan

Russia

U.S.

Other
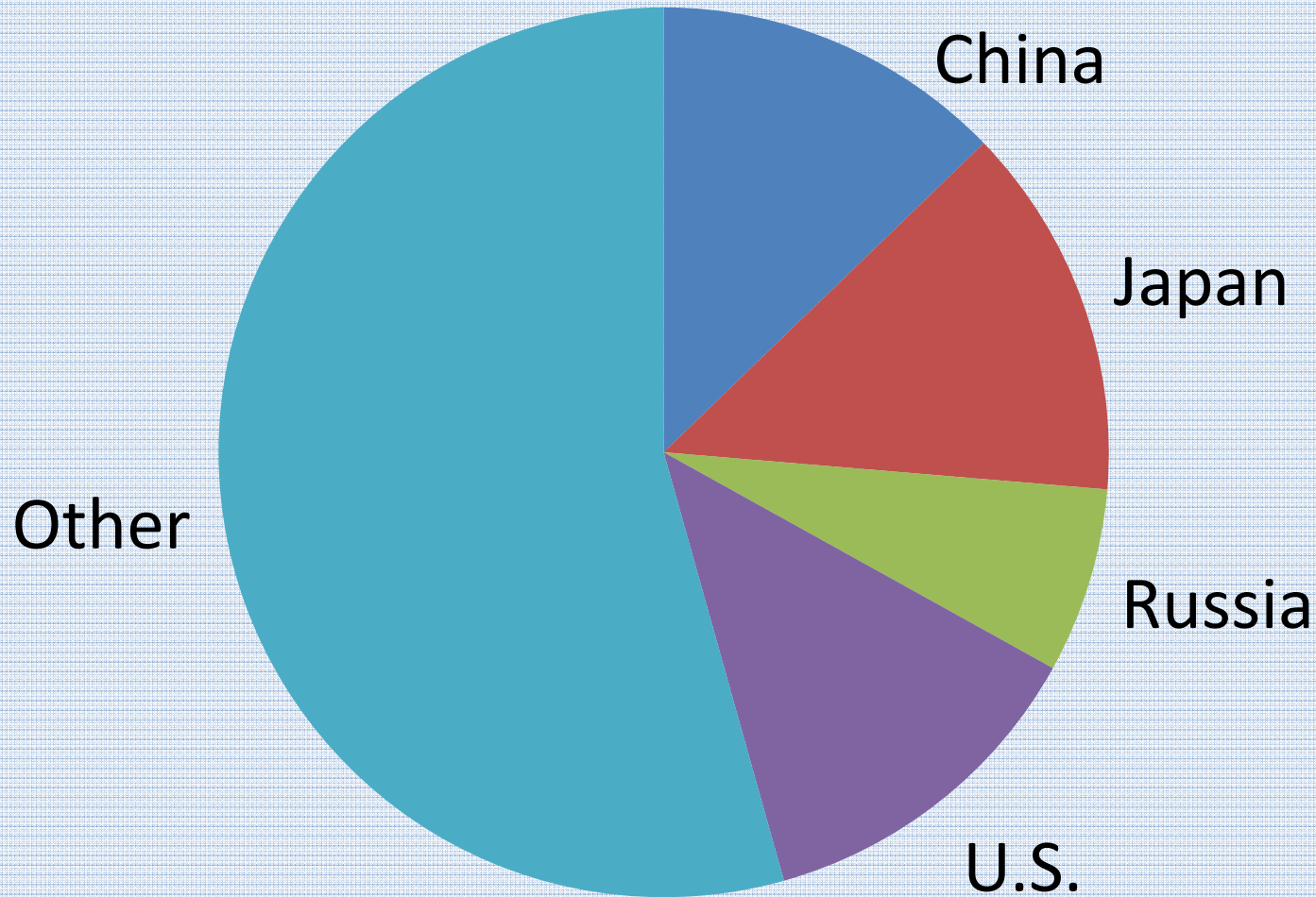
Source: World Steel Association

Steel Production
(1.6b tons (2015))

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Other

China

U.S.

India

Japan
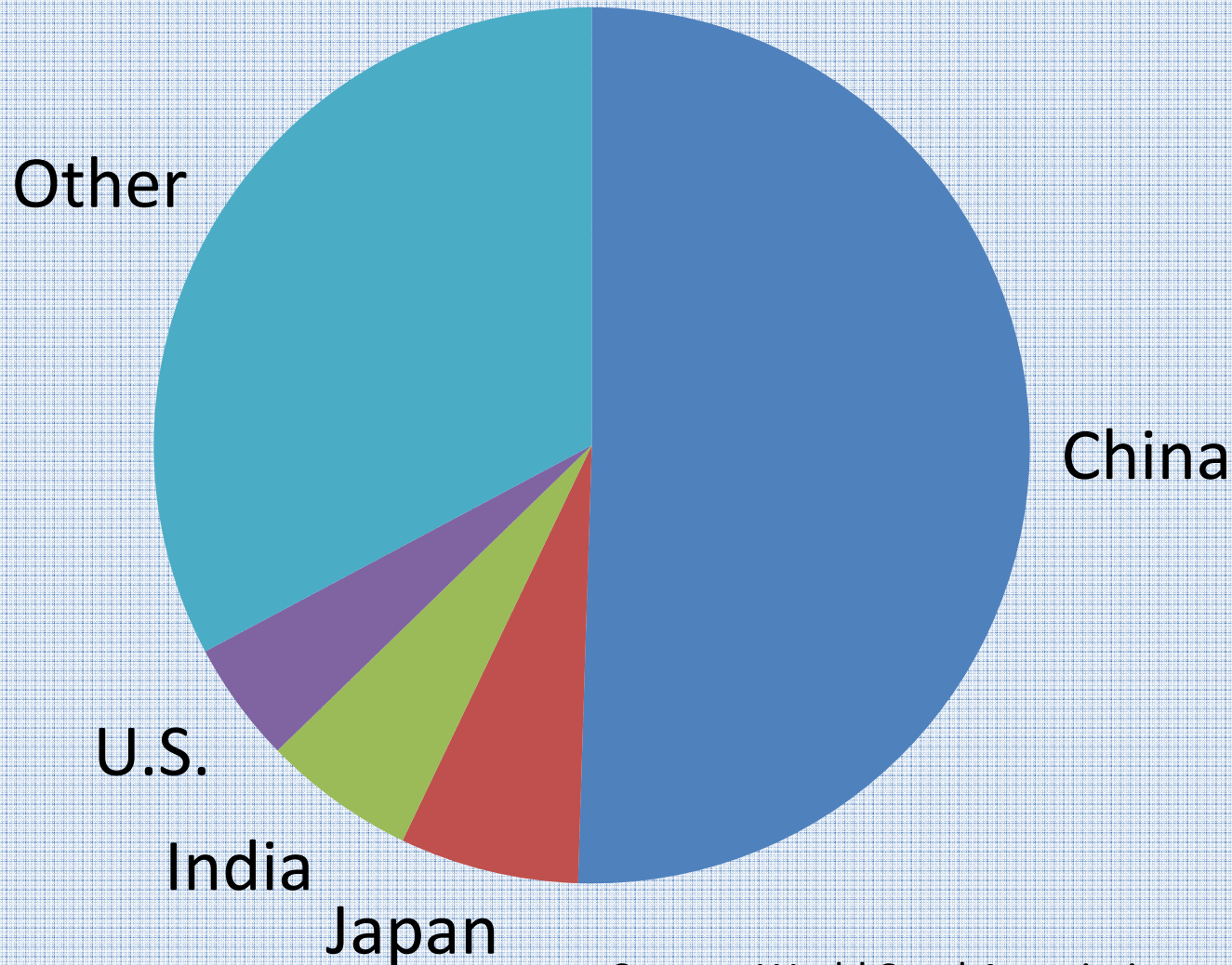
Source: World Steel Association

Too much of everything

China

Capacity-utilisation rates, %

Paper and paperboard
Flat glass
Aluminium
Cement
Steel
Refining

2008   2014

90
85
80
75
70
65
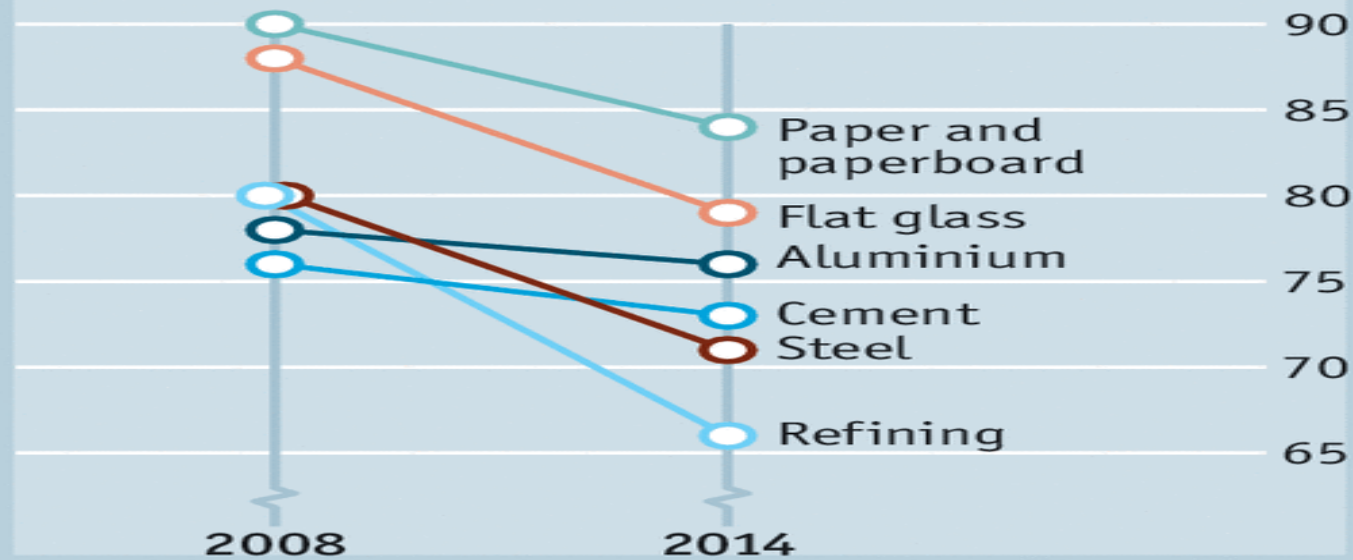
Domestic production

Average annual % increase, 2000–14, %
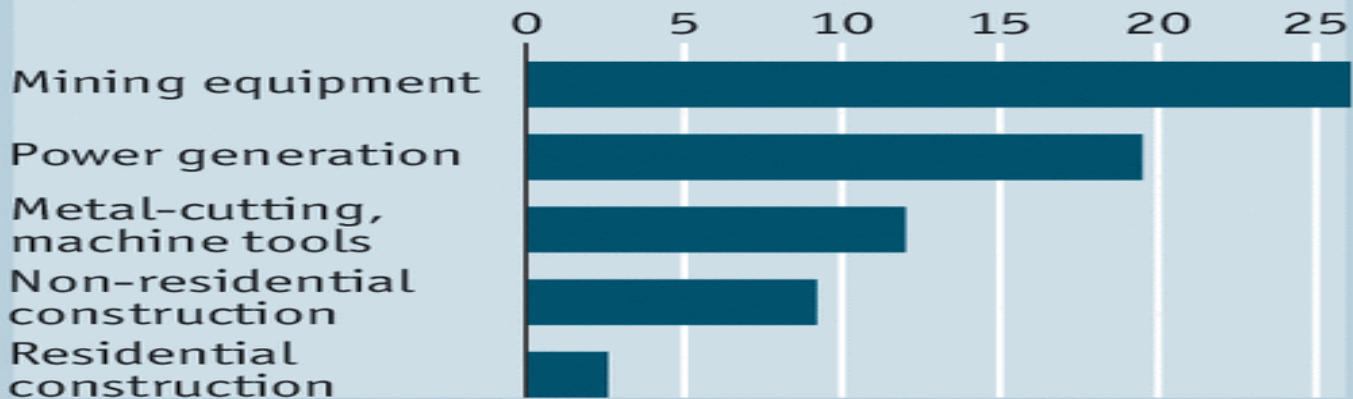
	0	5	10	15	20	25
Mining equipment						
Power generation						
Metal-cutting, machine tools						
Non-residential construction						
Residential construction						

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Tariffs on Steel Dumping

- Minnesota Mining Jobs = 7k

- Minnesota Metal Fabricating Jobs = 42K

- US Iron and Steel Mill Jobs = 81k jobs

- US Metal Fabricating Jobs = 1.4 million jobs

Bring on the personal trainers

Probability that computerisation will lead to job losses within the next two decades, 2013
(1=certain)

Job	Probability
Recreational therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.40
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real estate sales agents	0.86
Technical writers	0.89
Retail salespersons	0.92
Accountants and auditors	0.94
Telemarketers	0.99

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?" by C.Frey and M.Osborne (2013)

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Watch for:

- Slow labor force growth

- Big unpaid promises to aging
  – Social security and Medicaid/care
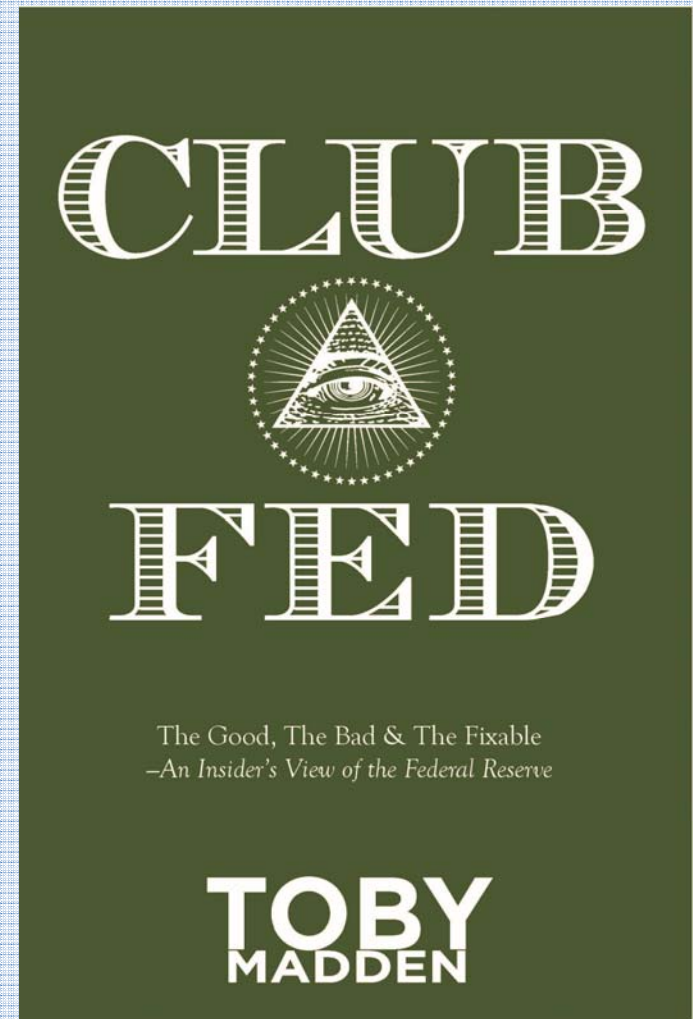
- Higher interest rates

Key Takeaways:

- Be Prepared!

- Diversify

Club Fed Book:

- Money is Power

- Banking is Unstable

- The Fed is F^3

CLUB FED

The Good, The Bad & The Fixable
—An Insider's View of the Federal Reserve

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Questions?

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clubfedbook.com

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@clubfedbook

TEXT YOUR QUESTIONS
at any time during this presentation to

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RESOURCES

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PARTICIPATE

To participate in the next round of surveys, please complete the form on your table and leave it on the registration table as you leave.

SAVE THE DATE

THE NEXT
REGIONAL ECONOMIC INDICATORS FORUM

Tuesday, November 1, 2016

Lake Superior Ballroom, DECC

Special Topic – Transportation