



American Ceramic Society Leadership Summit

April 8, 2014

James P. Meil
Vice President, Chief Economist



Eaton Corporation plc

- Eaton is a diversified power management company
- Eaton helps customers manage electrical, hydraulic and mechanical power.
- Eaton acquired Cooper Industries plc in November 2012
 - The 2013 revenue of the enterprise was \$22 billion
- Eaton has approximately 102,000 employees
- Eaton sells products to customers in more than 175 countries
- For more information, visit www.eaton.com.

BUSINESS

Corporate Economists Are Hot Again

The Shift Comes as Firms Cope With a Glut of Data; Recession 'Laid Bare'

By BOB TITA 

Updated March 7, 2014 6:59 p.m. ET

James Meil, chief economist at diversified manufacturer [Eaton Corp.](#) ETN +1.66%, and his staff of four, made 78 formal presentations last year, including one to the Association for Hose and Accessories Distribution. Distributors and suppliers, especially smaller ones, often rely on economists from their bigger customers to help decide whether they should add production capacity.

Veteran economists like Mr. Meil, who has been with Eaton for 29 years, are consulted on big acquisitions. When Eaton bought Cooper Industries PLC in 2012 for about \$11.8 billion, he provided market research for key business segments and forecasts for the combined company's end markets.

Presentation Outline

- U.S. Manufacturing Competitive Advantage:
 - Where do we stand?
- Global Outlook for 2014
 - More muddle through
- Question & Answer

The Great Reversal: Playing the U.S. Manufacturing Boom

By JACK HOUGH

April 6, 2012 3:05 p.m. ET

Investors who have favored emerging markets like China in recent years should pay attention to another growing manufacturing center. It boasts plenty of skilled workers; cheap and abundant energy; stable institutions; and a large middle class that likes to shop.

MARKETS

These 15 Companies Are Leading The American Manufacturing Renaissance



ROB WILE



AUG. 2, 2012, 6:10 PM

59,800

4



ISI has issued a comprehensive report called *Investing in the U.S. Manufacturing Renaissance*

Among other things, it cites 48 instances of U.S. companies or industries expanding or bringing back production capacity in the states.

BUSINESS

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URS CEO

Anticipates U.S. manufacturing renaissance

May 15, 2012 | Braden Reddall | Reuters

(Reuters) - Martin Koffel, head of engineering company URS Corp, feels the United States is poised for a manufacturing renaissance, driven at least in part by demand among the developing world's burgeoning consumer class.

"There is once again a cachet about American-made products," the CEO said in an interview on Tuesday. "In some industries at some levels, there's going to be a Made in America advantage."

The Washington Post

[Back to previous page](#)

An economic boom ahead?

By [David Ignatius](#), Published: May 4, 2012

With so much talk these days of America's decline, it may sound strange to ponder the prospects for an American economic boom a decade or so from now. But that's the thrust of two new studies, which have me thinking like Dr. Pangloss, Voltaire's caricature of optimism.

Thesis:

Capitalizing on Comparative Advantage

- U.S. manufacturers have competitive strengths
 - Superior management practices
 - Deep capital/high labor productivity
 - R&D intensity, technology leadership, labor productivity
- Pursue sectors where competitive advantage sustainable, exit where it cannot
- Policy makers can assist, or at least accommodate
- Progress may be slower than believed in the first rush of enthusiasm in 2011-2012

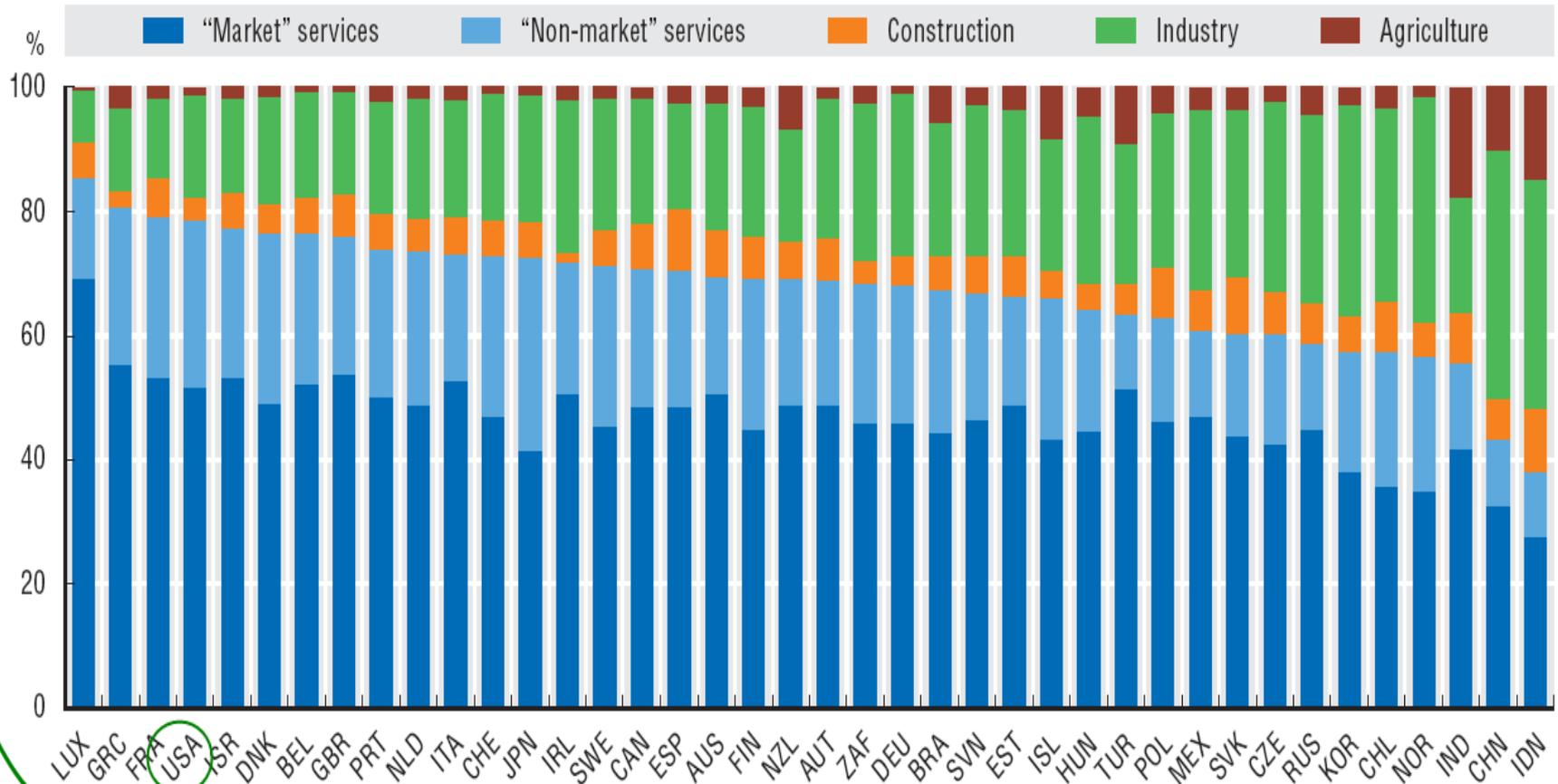
Facts:

Manufacturing in the U.S. and World

- *Other countries have competitive advantage that may be hard to surmount*
 - Costs of labor
 - Access to low cost natural resources
 - Lower hurdles for regulatory compliance, product safety, environment issues, litigation, taxes, and others
- *U.S. economy has particular characteristics*
 - Intellectual value high: management, R&D, technology
 - Labor tends to be skilled and productive, but costly
 - Overhead costs are high
 - Infrastructure, institutions, legal system & markets are world leaders
 - Access to low cost natural resources (natural gas, water, coal, other)
- *U.S. share of global manufacturing is fairly steady*

38. Composition of GDP in OECD and BRICS countries, 2011

Value added of major activity groups as a percentage of total industry value added

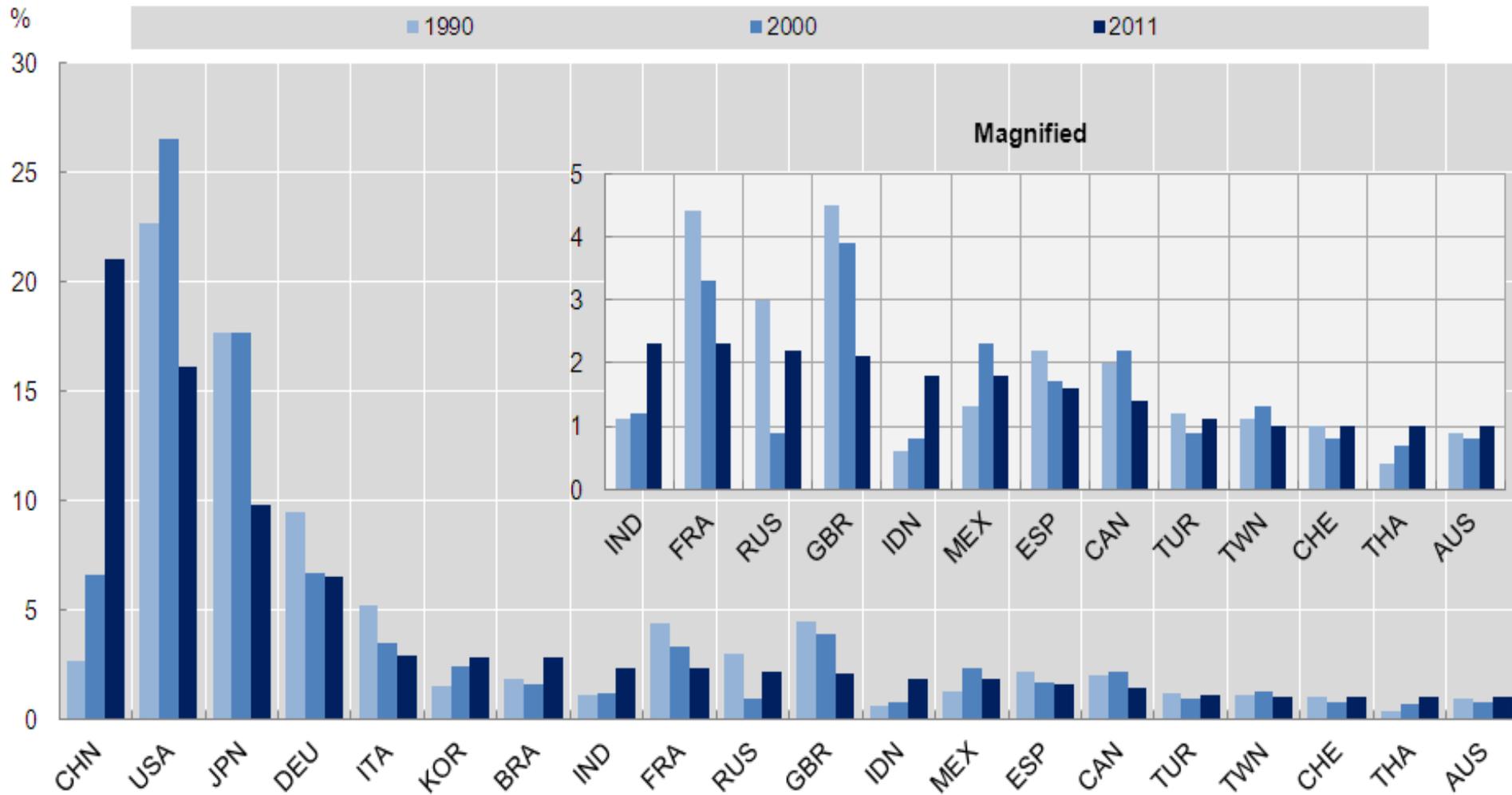


Source: OECD National Accounts (SNA) Database and Structural Analysis (STAN) Database, ISIC Rev.4; and national statistical institutes, June 2013. See chapter notes.

StatLink  <http://dx.doi.org/10.1787/888932890010>

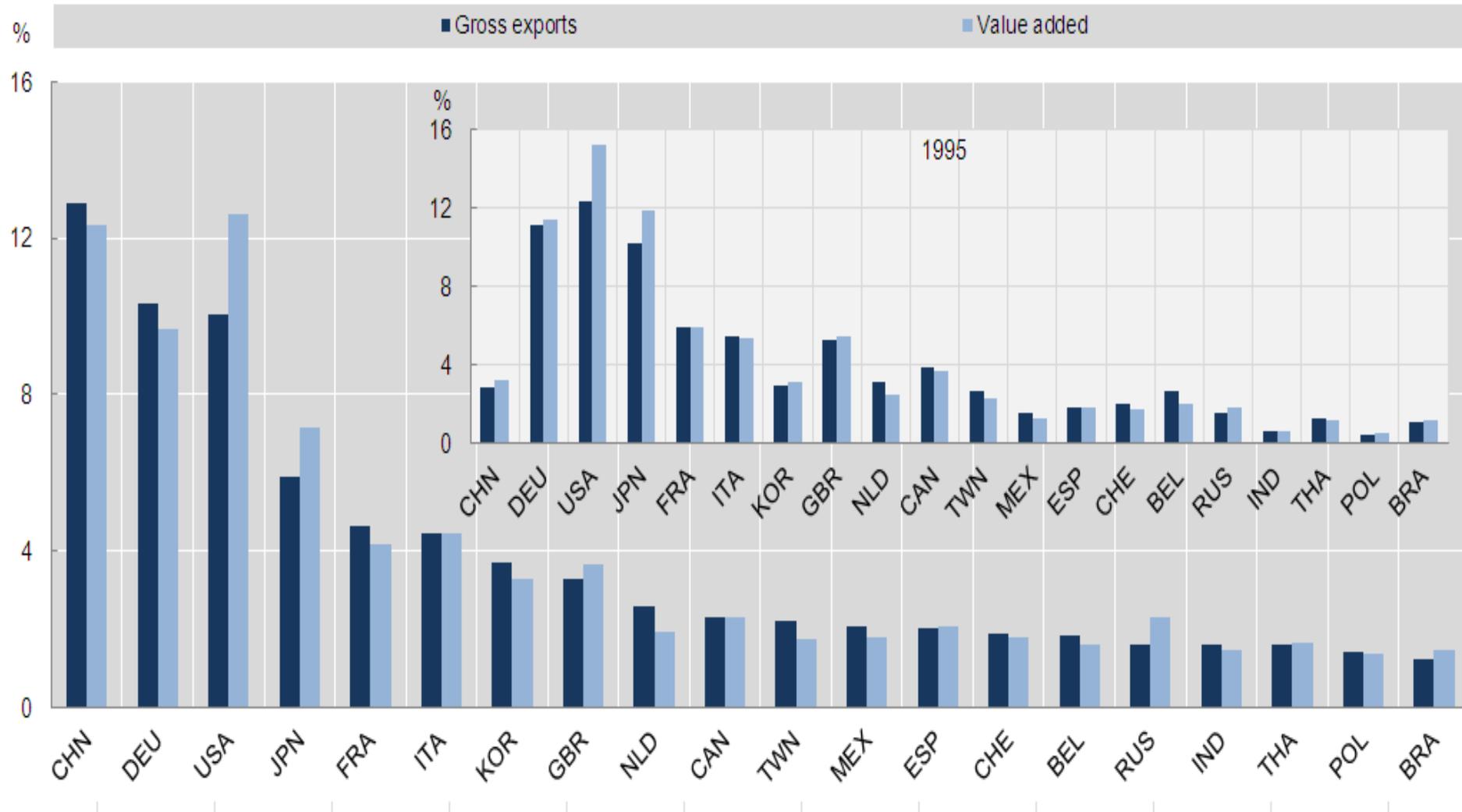
40. Top manufacturers, 1990, 2000 and 2011

Percentage share of total world manufacturing value added



41. Top 20 exporters of manufactured goods in gross and value added terms, 1995 and 2009

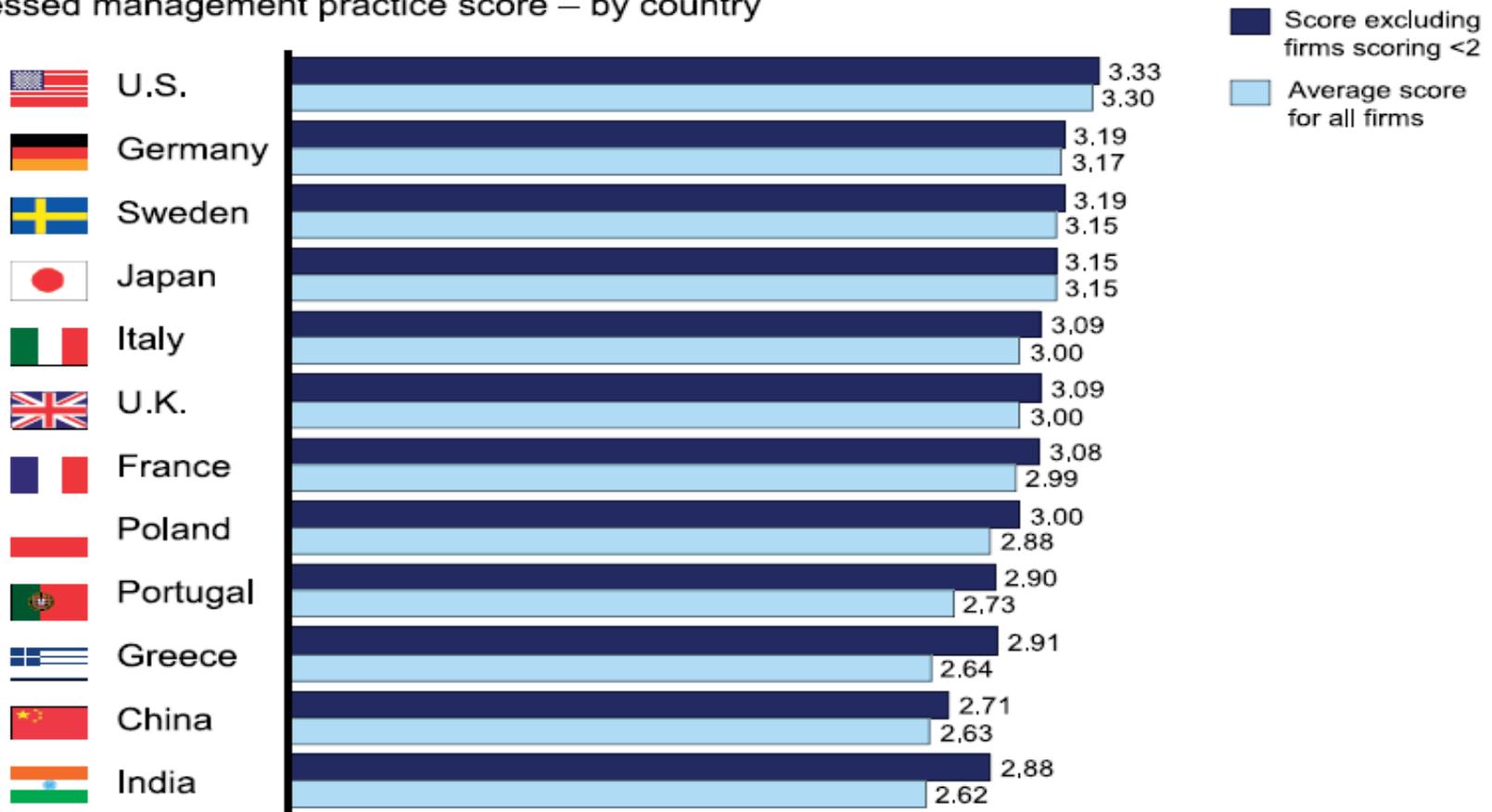
Percentage shares of total world manufacturing goods



Management Practice:

Performance scoring – survey of 4000 global medium sized manufacturing firms (0 to 5 scale)

Assessed management practice score – by country



Study Findings

- Multinationals are well run everywhere
- More competition is conducive to better mgmt practice
- Ownership edge to dispersed shareholders & private equity vs. family ownership or government
- U.S. edge is narrowing over time
- Weaker countries often dragged down by weak “tails”
- Self-grading is self-deception
 - Globally almost all managers gave themselves high marks

Competitive Realities: High Compensation and High Productivity

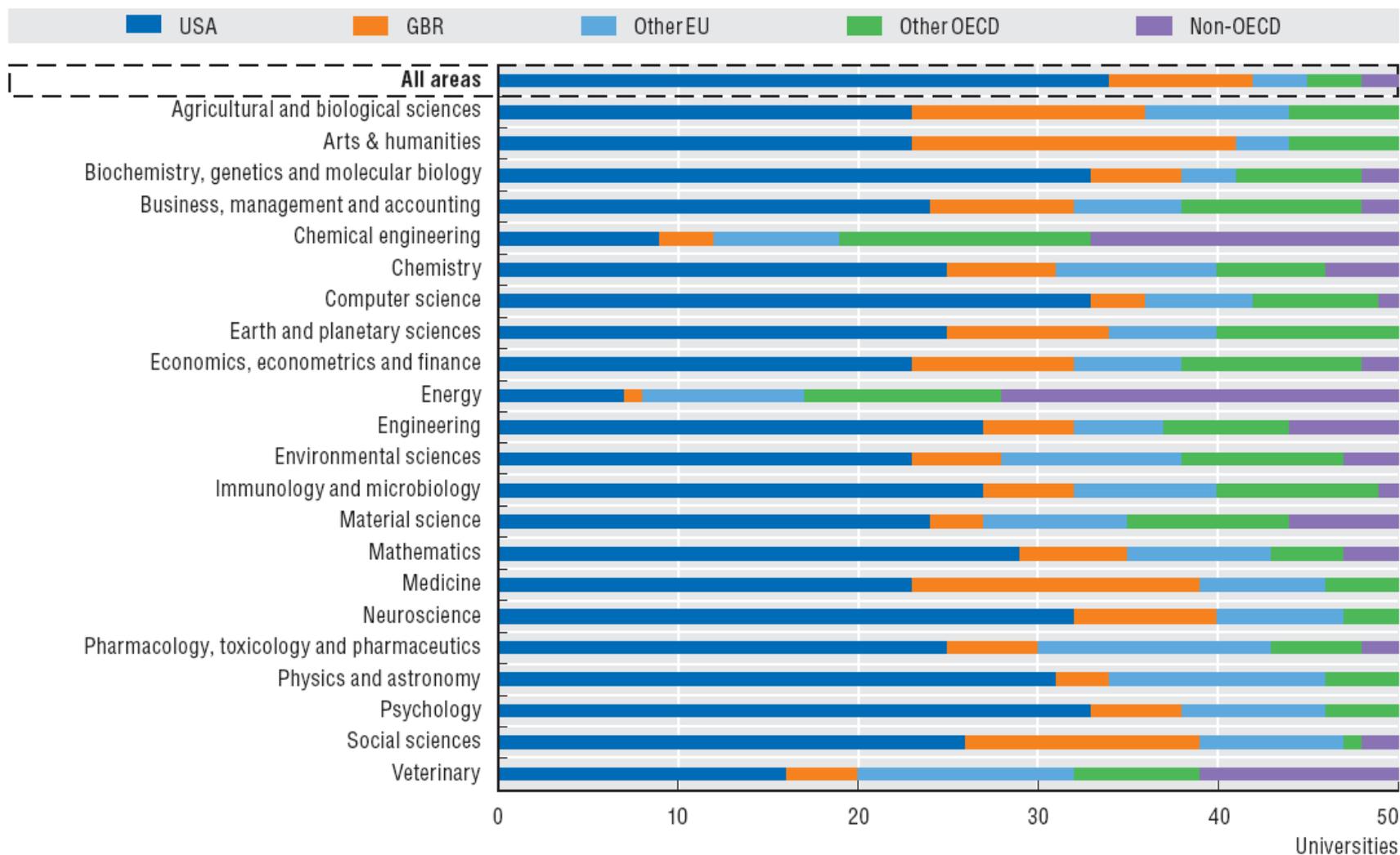
| 2006 | Manufacturing Hourly Compensation (USD) | Hourly Compensation Index (USA=100) | Productivity in Industry** (USD) | Productivity Index (USA=100) |
|--------------|---|-------------------------------------|----------------------------------|------------------------------|
| India | 0.66 | 3 | 13,676 | 14 |
| China | 0.96 | 4 | 23,153 | 24 |
| Russia | 0.88 | 4 | 41,239 | 42 |
| Brazil | 4.58 | 19 | 24,488 | 25 |
| Korea | 14.58 | 62 | 64,502 | 66 |
| Japan | 20.58 | 87 | 65,931 | 68 |
| USA | 23.65 | 100 | 97,341 | 100 |
| European(5)* | 25.90 | 110 | 68,876 | 71 |

*Weighted by 2006 GDP (PPP) for Germany, UK, France, Italy & Spain

**Related GDP (PPP) per person employed in industry

49. University hotspots, geographical distribution of highest impact institutions, 2007-11

Location of top 50 universities by main subject areas



Source: OECD and SCImago Research Group (CSIC), *Compendium of Bibliometric Science Indicators 2014*, based on Scopus Custom Data, Elsevier, May 2013. StatLink contains more data. See chapter notes.

StatLink  <http://dx.doi.org/10.1787/888932890219>

Patent Issuing Regions

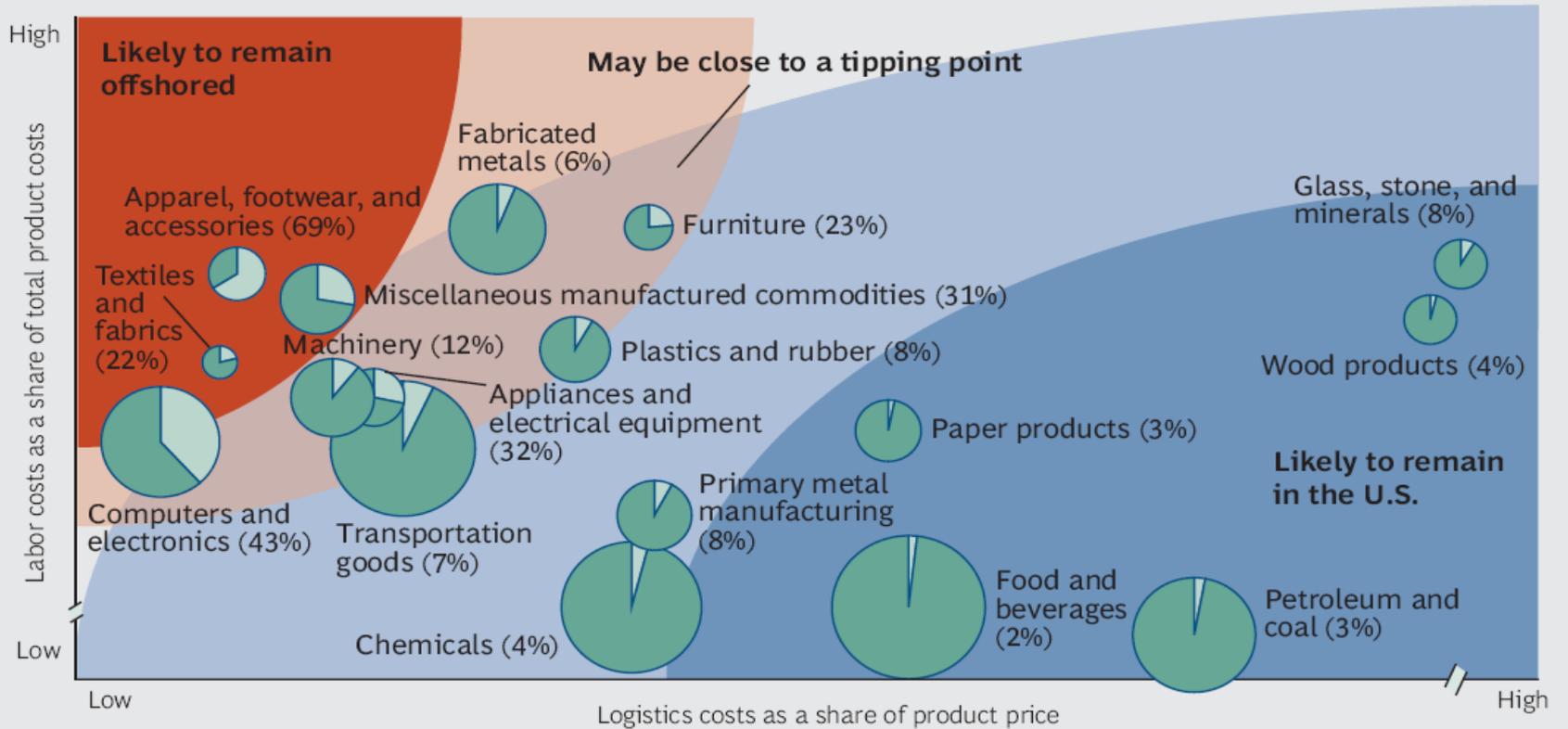
Top 60 patenting regions¹ worldwide

| Region | | PCT filings | Share (%) in total filings | Share (%) in country's filings |
|--|----|-------------|----------------------------|--------------------------------|
| Tokyo | JP | 17 584 | 4.5 | 27.9 |
| San Jose-San Francisco-Oakland | US | 15 599 | 4.0 | 11.7 |
| New York-Newark-Bridgeport | US | 13 044 | 3.3 | 9.7 |
| Boston-Worcester-Manchester | US | 9 701 | 2.5 | 7.2 |
| Capital region (Seoul - Incheon - Gyeonggi-do) | KR | 8 608 | 2.2 | 67.5 |
| Los Angeles-Long Beach-Riverside | US | 7 304 | 1.9 | 5.5 |
| Kanagawa | JP | 7 032 | 1.8 | 11.2 |
| Osaka | JP | 6 961 | 1.8 | 11.1 |
| île de France | FR | 6 301 | 1.6 | 36.5 |
| Minneapolis-St. Paul-St. Cloud | US | 5 619 | 1.4 | 4.2 |
| Stuttgart | DE | 5 488 | 1.4 | 11.6 |
| San Diego-Carlsbad-San Marcos | US | 5 393 | 1.4 | 4.0 |
| Noord-Brabant | NL | 5 391 | 1.4 | 57.7 |

1. The regional breakdown is presented at NUTS 2 level, except for Japan (NUTS 3), the United Kingdom (NUTS 1) and the United States (TL 3). In this breakdown, smaller countries such as Denmark and Israel are treated as regions.

7 of top 15 regions
12 of top 30 regions
21 of top 60 regions

EXHIBIT 2 | Seven U.S. Industry Clusters May Be Close to a Tipping Point



Sources: U.S. Department of Transportation; U.S. Census Bureau; U.S. Bureau of Economic Analysis; BCG analysis.

A Future for U.S. Manufacturing?

- High Value Added
- Innovative
- Clean & Green
- It takes time . . .



Shale gas revolution – or evolution?

Consumption table from Bank Credit Analyst

Table 1

2010 data

Natural Gas Consumption In Manufacturing (2010)

| | % share of the sector's gas use | Spending on gas as % of | |
|--|---------------------------------|-------------------------|-----------------------|
| | | Sales | Employee compensation |
| Food and beverages | 11.0 | 0.5 | 6.1 |
| Wood and paper | 7.7 | 1.0 | 7.9 |
| Petroleum refining | 16.4 | 0.8 | 70.4 |
| Chemicals | 37.6 | 1.5 | 21.2 |
| Plastics, rubber & non-metallic minerals | 6.6 | 0.8 | 5.2 |
| Primary metals | 10.0 | 1.3 | 15.2 |
| Machinery, equipment & transport | 4.9 | 0.1 | 0.9 |
| Other | 5.7 | 0.1 | 1.1 |
| Total Manufacturing | 100.0 | 0.6 | 5.6 |

Conclusions

- U.S. is globally competitive in industries with these characteristics:
 - High technical content and innovation (aero, auto, pharma, semicon)
 - Offset work force costs with skills & labor productivity
 - Tendency to be clean and green (pharma, machinery)
 - Transportation costs (volume/value) are high
- Without these, sustaining competitive position is difficult (textile, furniture, commodity manufacturing)
- Small production runs of high knowledge content products
 - > Think Switzerland ... but with scale

Gamechangers? 3-D printing, shale gas – all maybes

Key Points on Global Economy

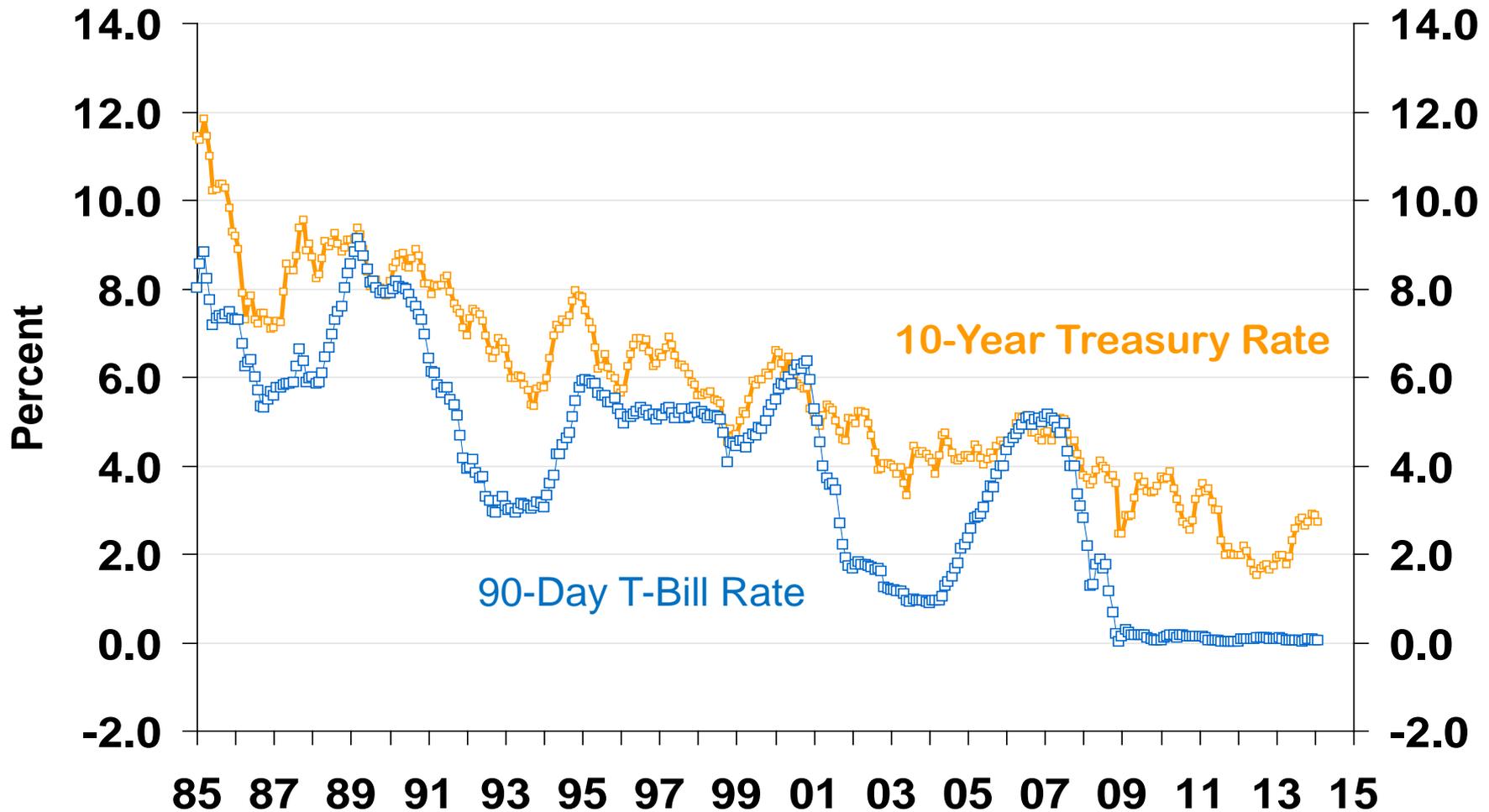
- Right now – discerning the impact of winter weather
 - US/Can – severe winter holds back production, employment, transport
 - Boosts utilities, energy production and prices
 - Europe – mild winter is a tailwind
 - In April – will N bounce back? Could policymakers misread?
- BRIC/EM geopolitical risks adding to financial risks
 - Russia/Ukraine • Venezuela • Syria
 - China slowdown; vulnerable India, Turkey, South Africa
- Construction, capital goods and vehicle markets
 - US construction data showing hints of strength, especially in non-resi
 - Capital goods orders gaining ground in NA, EU after soft summer & fall
 - Light vehicles rebounding in Europe, weather stall in US
 - Heavy duty truck market picking up substantial momentum

Satisfactory 2014 economy, better yet for manufacturing

Evidence – lead indicators

- Yield curve (spread between long/short rates)
 - Central banks making or limiting credit availability
- Purchasing Managers Indices
- Commodity prices
- Stock markets
- Sentiment surveys

U.S. 10-Year Treasury Rates and 90-Day T-bills



Evidence – lead indicators

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Manufacturers' Purchasing Managers Indexes: new orders

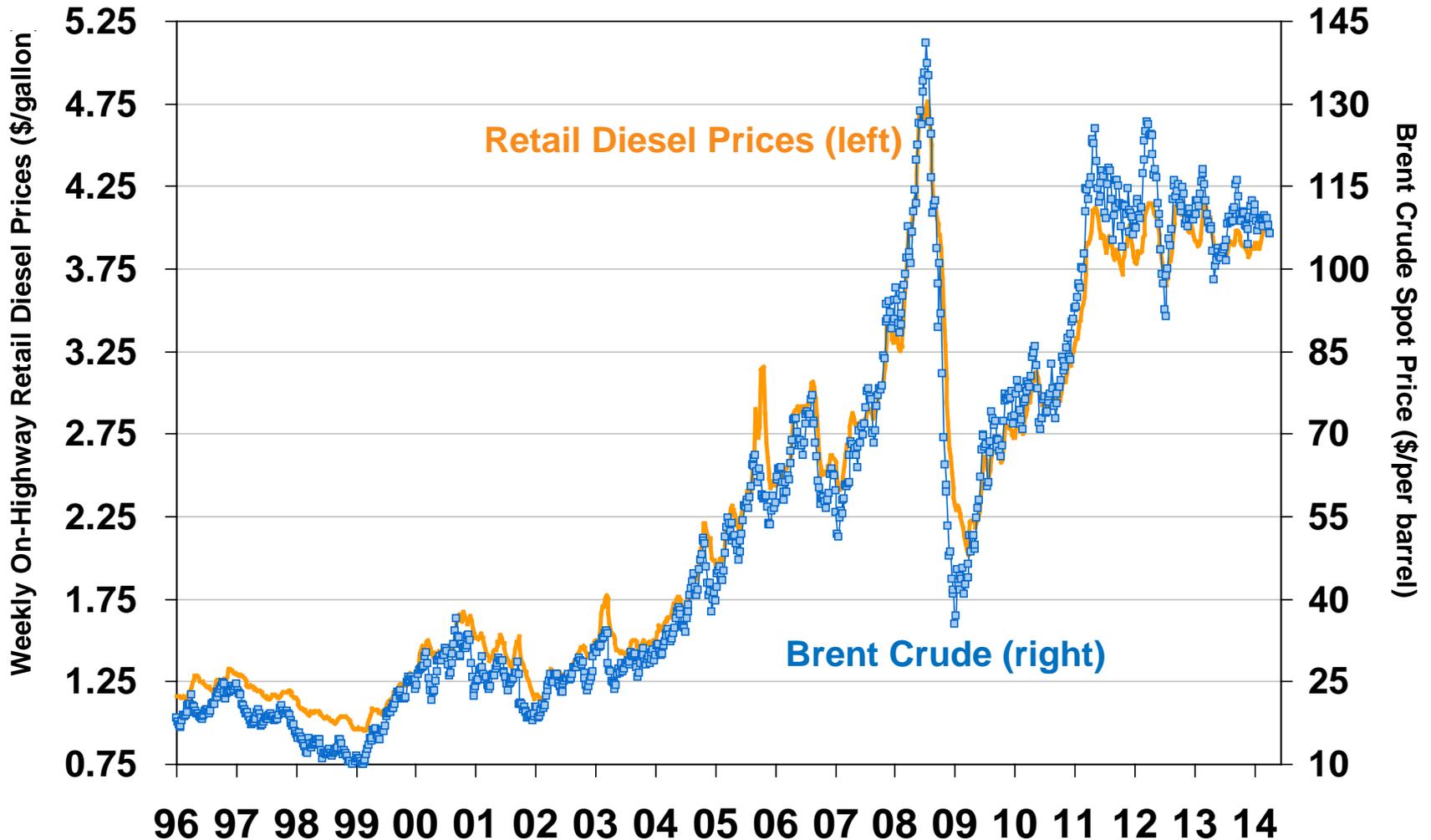
| | Mar-13 | Apr-13 | May-13 | Jun-13 | Jul-13 | Aug-13 | Sep-13 | Oct-13 | Nov-13 | Dec-13 | Jan-14 | Feb-14 | Mar-14 |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Global | 51.7 | 50.5 | 51.1 | 51.2 | 51.2 | 53.0 | 52.6 | 53.1 | 54.5 | 54.4 | 54.4 | 54.6 | 53.2 |
| United States | 55.4 | 51.5 | 53.3 | 53.4 | 55.5 | 55.7 | 53.2 | 52.7 | 56.2 | 56.1 | 53.9 | 59.6 | 58.1 |
| Canada | 48.0 | 50.5 | 54.5 | 53.0 | 52.6 | 52.6 | 56.1 | 58.5 | 58.0 | 55.0 | 52.9 | 52.6 | 53.4 |
| Eurozone | 45.3 | 45.4 | 49.0 | 49.3 | 50.8 | 53.3 | 52.1 | 51.9 | 52.3 | 54.1 | 55.7 | 54.5 | 54.3 |
| Germany | 48.7 | 48.1 | 51.1 | 49.5 | 51.3 | 54.5 | 52.6 | 52.5 | 54.5 | 56.6 | 59.7 | 57.1 | 55.5 |
| France | 40.6 | 41.9 | 46.5 | 48.0 | 48.6 | 49.8 | 50.6 | 48.3 | 46.8 | 45.6 | 48.7 | 49.2 | 53.2 |
| Italy | 41.1 | 41.4 | 46.1 | 48.8 | 50.5 | 53.3 | 50.8 | 50.5 | 50.5 | 54.3 | 53.9 | 53.3 | 52.8 |
| Spain | 43.3 | 43.0 | 49.5 | 51.8 | 50.7 | 52.5 | 52.2 | 54.0 | 49.2 | 51.0 | 52.1 | 52.9 | 54.5 |
| UK | 51.3 | 52.0 | 54.4 | 55.4 | 58.3 | 61.6 | 59.6 | 60.9 | 63.8 | 60.3 | 61.3 | 60.7 | 56.8 |
| Russia | 53.3 | 52.7 | 52.4 | 53.7 | 49.9 | 51.6 | 50.4 | 54.7 | 50.6 | 49.8 | 49.6 | 48.6 | 48.0 |
| Japan | 52.8 | 53.6 | 53.1 | 54.7 | 53.0 | 54.1 | 55.5 | 56.7 | 58.4 | 57.2 | 59.2 | 56.2 | 54.9 |
| China | 53.3 | 51.2 | 48.7 | 47.6 | 46.6 | 50.8 | 50.8 | 51.5 | 51.7 | 51.6 | 50.1 | 48.6 | 46.5 |
| India | 52.8 | 52.3 | 50.5 | 49.7 | 49.5 | 47.5 | 49.6 | 48.9 | 51.9 | 51.3 | 52.4 | 54.9 | 52.7 |
| Brazil | 52.3 | 51.1 | 50.8 | 50.3 | 47.3 | 49.3 | 49.6 | 49.9 | 49.3 | 50.7 | 52.4 | 50.9 | 50.7 |

| | | | |
|-------------|-------|-------|-----------|
| >54 | 51-54 | 45-51 | <45 |
| Above Trend | Trend | Flat | Recession |

Evidence – lead indicators

- Yield curve (spread between long/short rates)
 - Central banks making or limiting credit availability
- Purchasing Managers Indices
- **Commodity prices**
- Stock markets
- Sentiment surveys

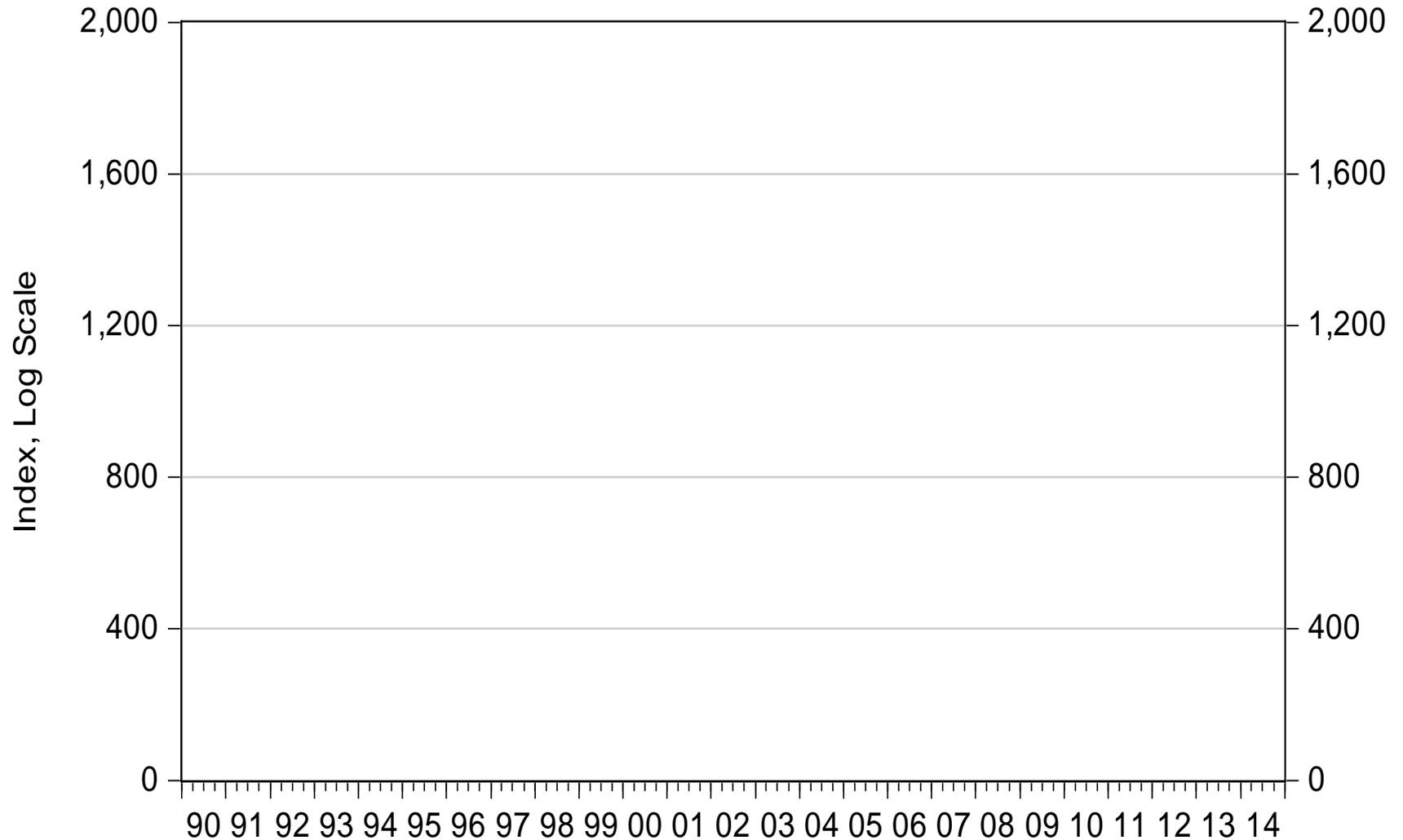
Global Oil and U.S. Diesel Prices



Evidence – lead indicators

- Yield curve (spread between long/short rates)
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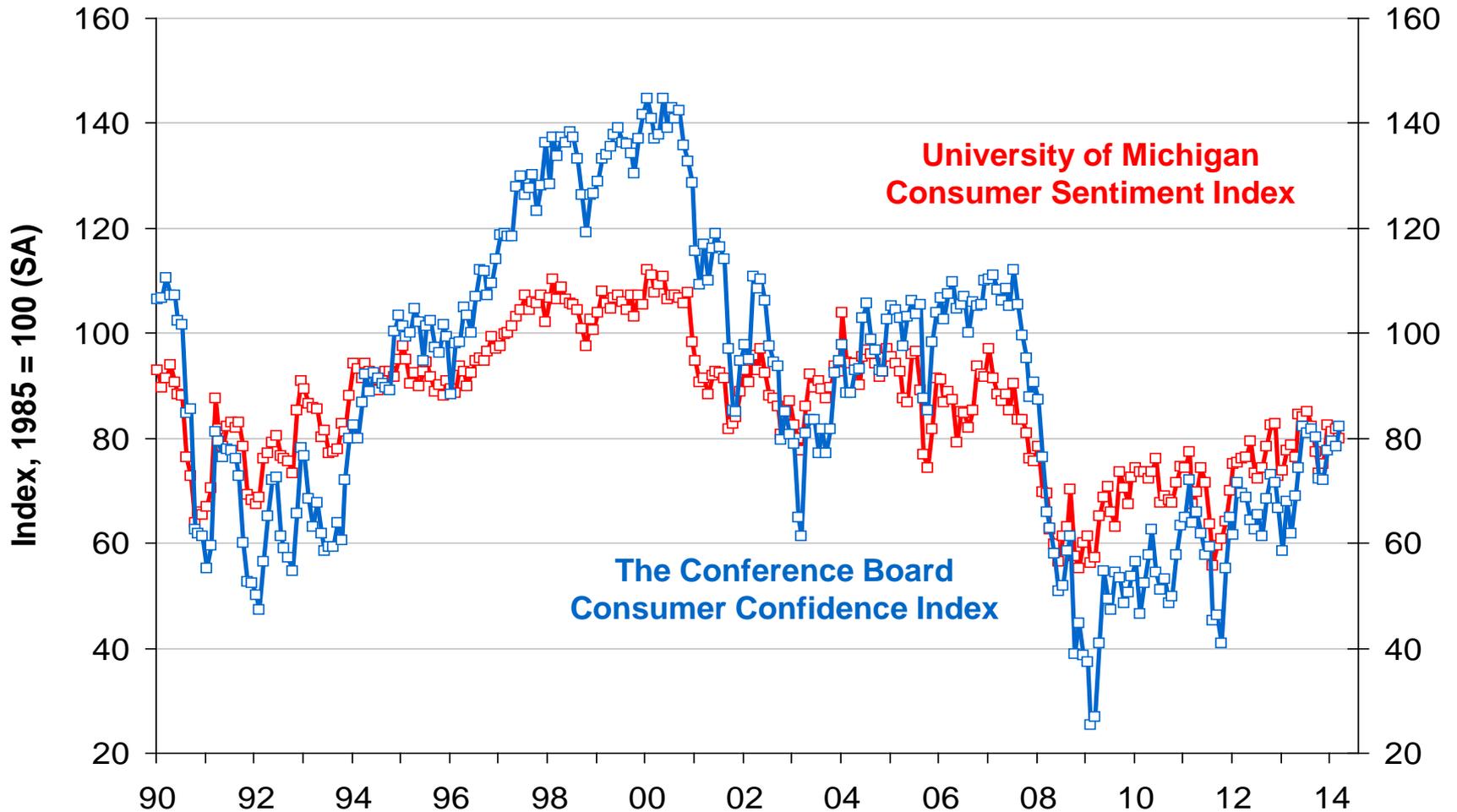
U.S. Stock Market – S & P 500



Evidence – lead indicators

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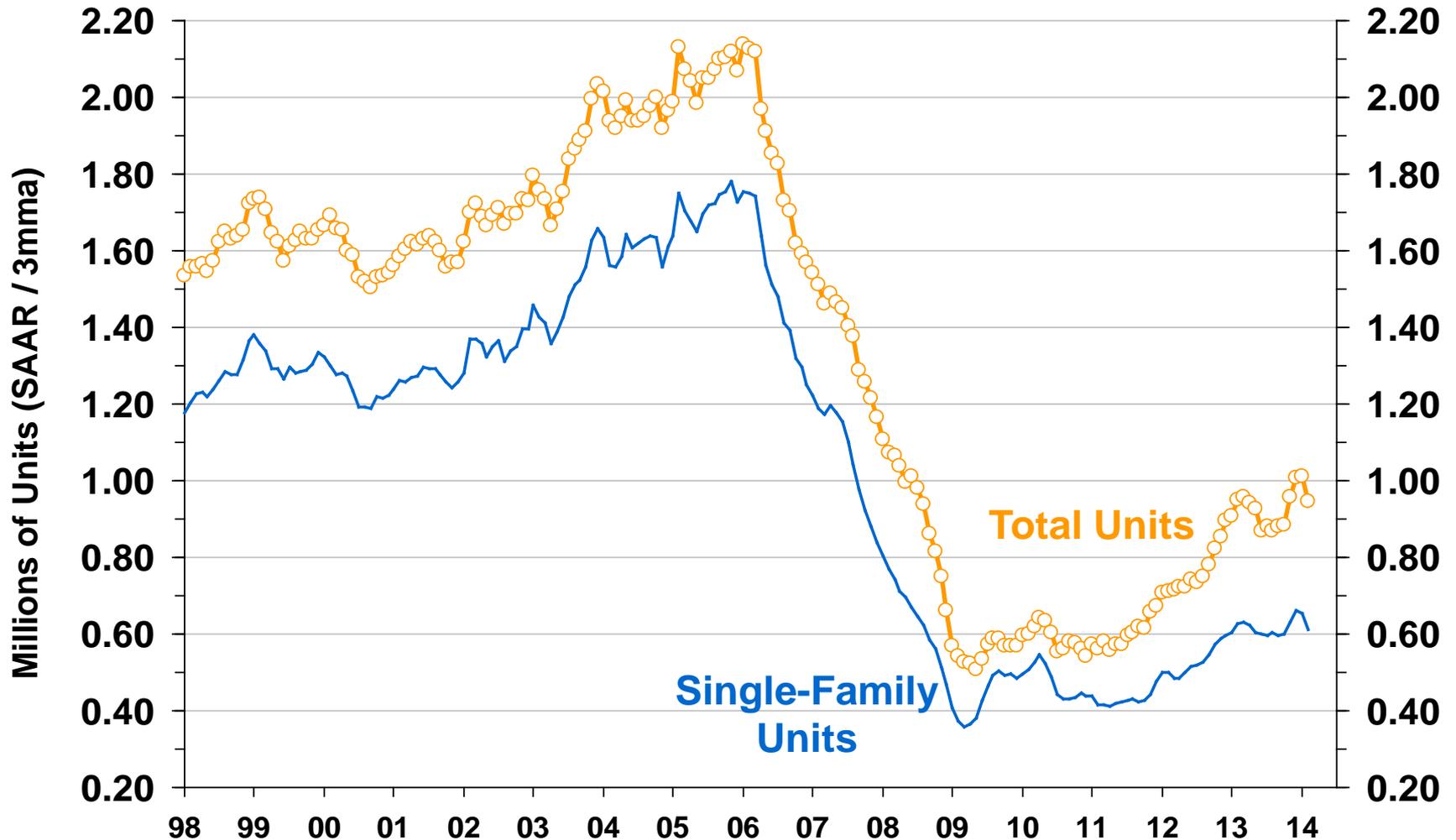
U.S. Consumer Confidence and Sentiment



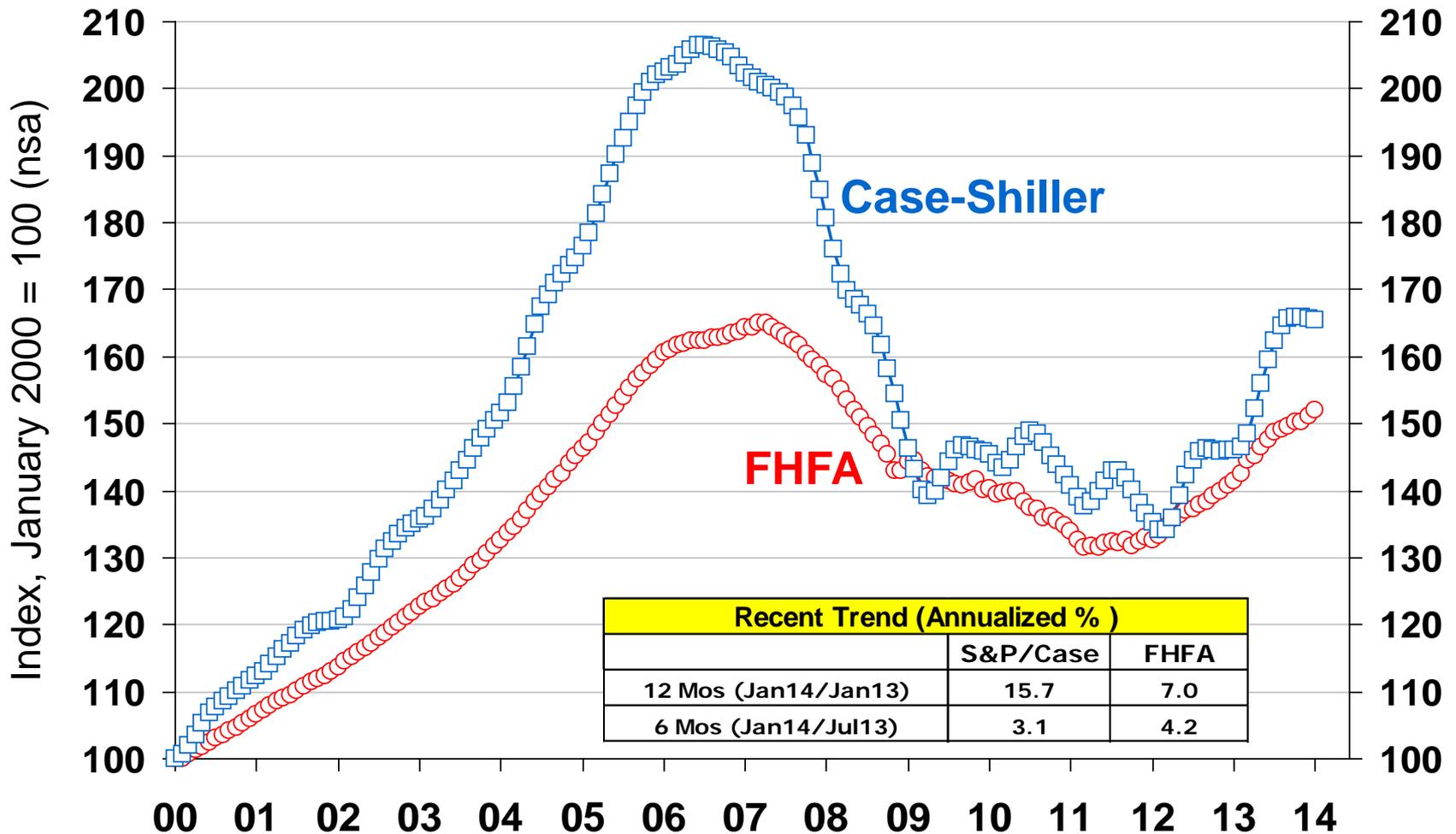
Households and consumers ... and what they do ...

- Housing
- Auto

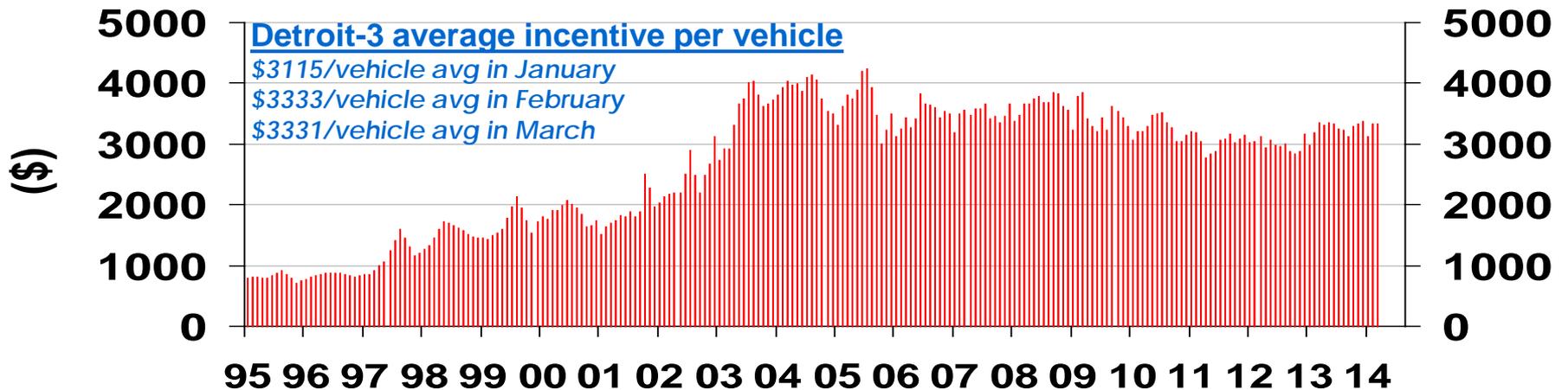
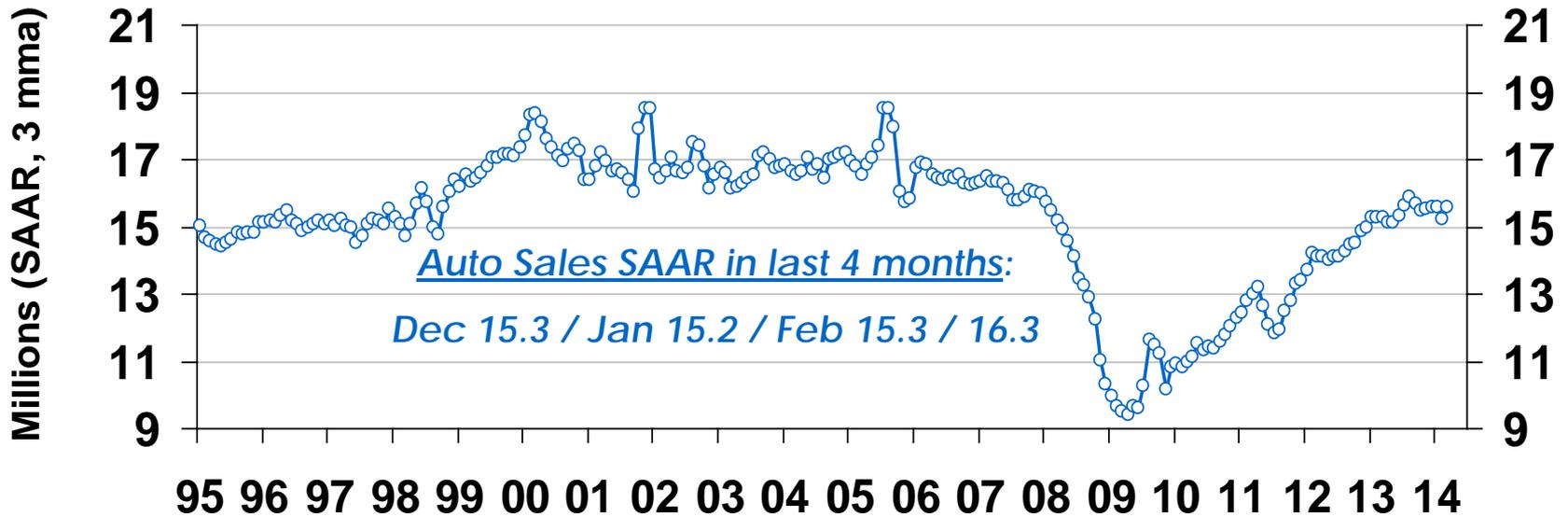
U.S. Housing Starts



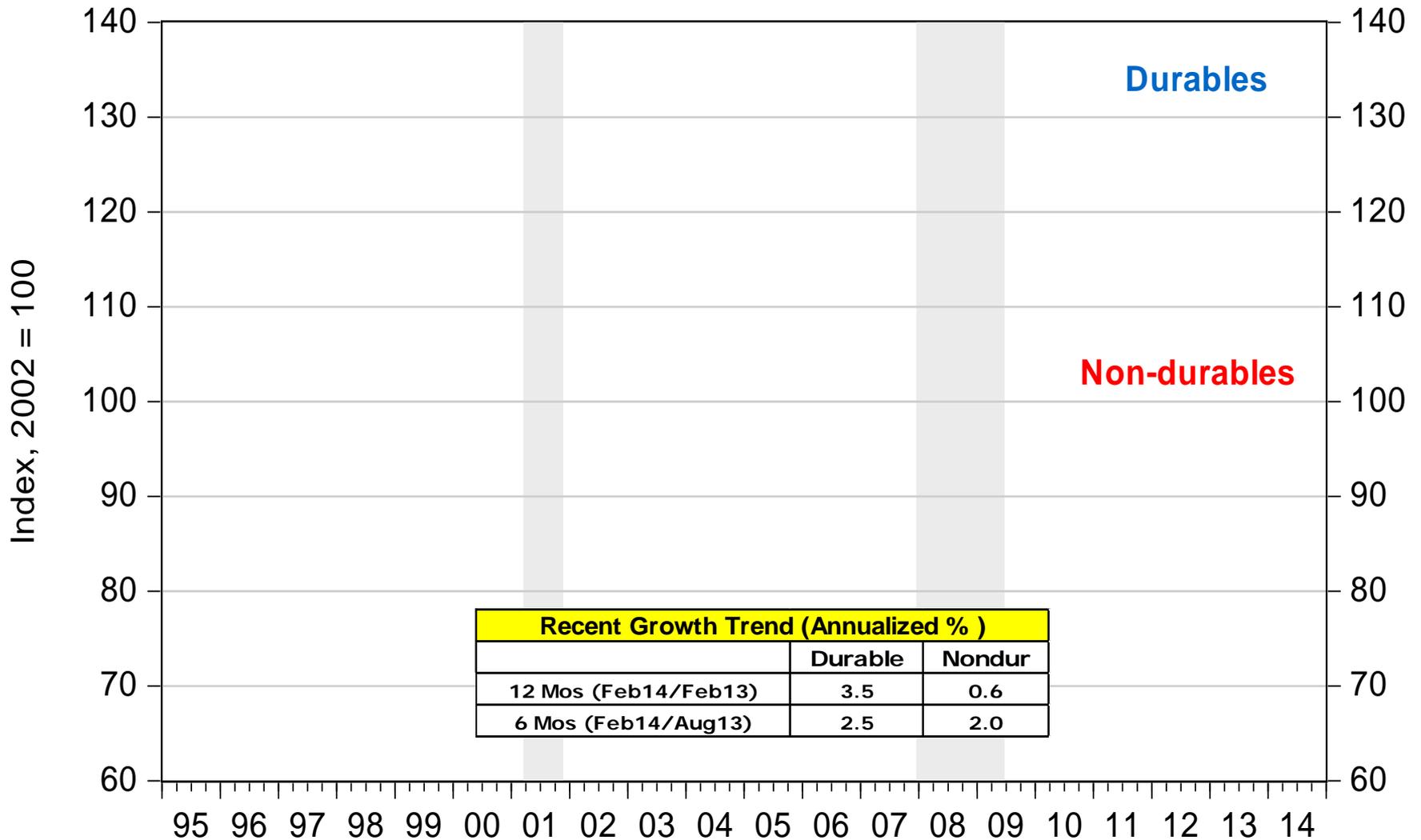
Standard & Poor's Case-Shiller® Index and FHFA Home Price Index



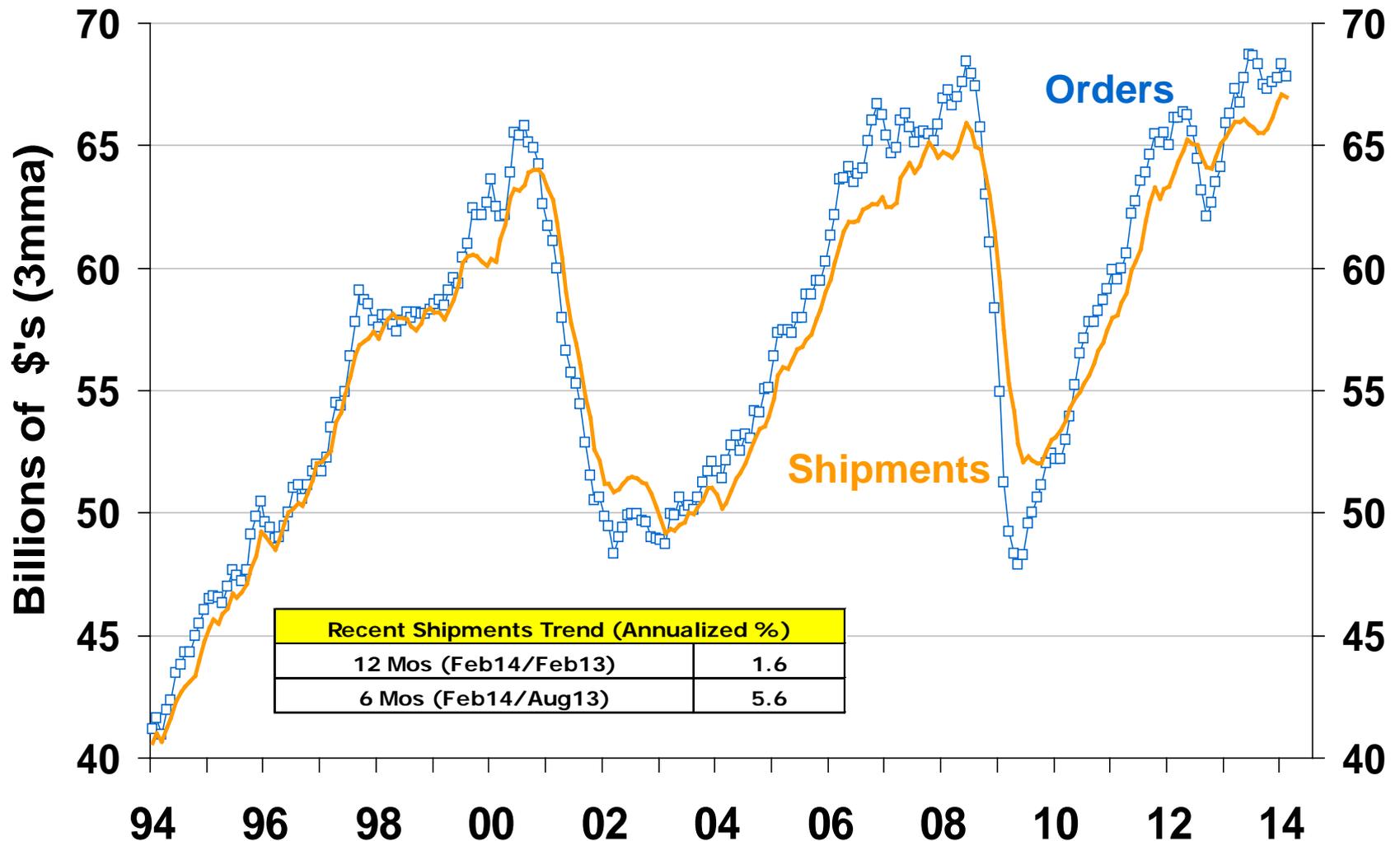
U.S. Light Vehicle Retail Sales



Manufacturing Industrial Production Indices Non-durables and Durables Industries



U.S. Non-defense Cap Goods (excluding aircraft)



Summary & Wrap Up

U.S. Macroeconomic Outlook

| | 2013 Actual | | | | 2014 Forecast | | | | 2012 Actual | 2013 Actual | 2014 Forecast |
|----------------------------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|-------------|-------------|-------------|---------------|
| | Qtr 1* act | Qtr 2* act | Qtr 3* act | Qtr 4* act | Qtr 1* f | Qtr 2* f | Qtr 3* f | Qtr 4* f | | | |
| Real GDP | 1.1 | 2.5 | 4.1 | 2.4 | 1.3 | 2.3 | 2.3 | 3.4 | 2.8 | 1.9 | 2.4 |
| Consumer Spending | 2.3 | 1.8 | 2.0 | 2.6 | 2.1 | 2.3 | 2.1 | 3.3 | 2.2 | 2.0 | 2.3 |
| Capital Spending | -4.6 | 4.7 | 4.8 | 7.3 | 4.5 | 2.9 | 4.3 | 6.0 | 7.3 | 2.8 | 4.8 |
| Equipment | 1.6 | 3.3 | 0.2 | 10.6 | 4.6 | 2.6 | 4.0 | 7.5 | 7.6 | 3.1 | 4.8 |
| Structures | -25.7 | 17.6 | 13.4 | 0.2 | 6.0 | 4.5 | 6.8 | 5.0 | 12.7 | 1.4 | 6.2 |
| Government Spending | -4.2 | -0.4 | 0.4 | -5.5 | 1.7 | 0.4 | 0.7 | 1.4 | -1.0 | -2.3 | -0.4 |
| Net Exports (Y2K\$B) | -422 | -424 | -420 | -383 | -382 | -368 | -357 | -361 | -431 | -412 | -367 |
| Mfg Industrial Production | 5.4 | 0.2 | 1.4 | 5.0 | 1.6 | 6.6 | 3.1 | 6.4 | 4.2 | 2.5 | 3.5 |
| Nondurables | 4.3 | -1.1 | -0.6 | 2.4 | 0.0 | 5.2 | 1.7 | 1.6 | 1.1 | 1.1 | 1.6 |
| Durables | 6.4 | 1.5 | 3.2 | 7.4 | 2.9 | 7.6 | 4.1 | 10.0 | 7.1 | 3.7 | 5.2 |
| Housing Starts (M) | 0.96 | 0.87 | 0.88 | 1.02 | 0.95 | 1.04 | 1.08 | 1.10 | 0.78 | 0.93 | 1.04 |
| US Light Vehicle Sls (M) | 15.3 | 15.5 | 15.7 | 15.6 | 15.4 | 16.1 | 16.2 | 16.8 | 14.4 | 15.5 | 16.1 |
| NA Lt Veh Production (M) | 16.6 | 16.8 | 15.5 | 15.3 | 16.7 | 17.0 | 16.2 | 17.0 | 15.4 | 16.1 | 16.7 |
| Unemployment Rate (%) | 7.7 | 7.5 | 7.3 | 7.0 | 6.8 | 6.7 | 6.5 | 6.2 | 8.1 | 7.4 | 6.6 |
| 90-Day Treasury Yield | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 10-Year Treasury Yield | 1.9 | 2.0 | 2.7 | 2.7 | 2.8 | 2.9 | 3.0 | 3.3 | 1.8 | 2.3 | 3.0 |
| GDP Deflator | 1.7 | 0.6 | 2.0 | 1.6 | 2.2 | 1.4 | 1.7 | 2.0 | 1.7 | 1.5 | 1.7 |

Percent Changes except where indicated

Updated March 14, 2014

*2013-2014 changes expressed as q/q seasonally adjusted annualized rates

Global Macroeconomic Outlook

GDP and Mfg Industrial Production

| Real GDP | 2011 Share of World GDP | 2013 | | | | 2014 | | | | 2012 Actual | 2013 Actual | 2014 Forecast |
|------------------|----------------------------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|-------------|-------------|---------------|
| | | Qtr 1 act | Qtr 2 act | Qtr 3 act | Qtr 4 act | Qtr 1 f | Qtr 2 f | Qtr 3 f | Qtr 4 f | | | |
| United States | 21.8% | 1.1 | 2.5 | 4.1 | 2.6 | 1.3 | 2.4 | 2.3 | 2.8 | 2.8 | 1.9 | 2.4 |
| Brazil | 3.5% | 0.0 | 7.5 | -2.1 | 2.8 | 1.0 | 1.8 | 3.6 | 3.4 | 1.0 | 2.3 | 2.0 |
| Europe | | | | | | | | | | | | |
| EU-28 | 24.8% | -0.2 | 1.6 | 1.2 | 1.7 | 1.3 | 1.4 | 1.6 | 1.6 | -0.4 | 0.1 | 1.5 |
| Eurozone | 18.4% | -0.9 | 1.3 | 0.6 | 1.1 | 0.8 | 1.3 | 1.3 | 1.6 | -0.6 | -0.4 | 1.1 |
| China* | 10.3% | 7.7 | 7.5 | 7.8 | 7.7 | 7.2 | 7.1 | 7.1 | 7.0 | 7.7 | 7.7 | 7.1 |
| Japan | 8.3% | 4.5 | 4.1 | 1.0 | 0.7 | 3.5 | -2.2 | 2.0 | 1.2 | 1.4 | 1.5 | 1.3 |
| India* | 2.7% | 4.8 | 4.4 | 4.8 | 4.7 | 4.6 | 4.7 | 4.7 | 4.8 | 5.2 | 4.7 | 4.7 |
| World | 71.4% | 2.4 | 3.9 | 2.5 | 2.8 | 2.9 | 1.9 | 3.1 | 3.0 | 2.1 | 2.2 | 2.7 |
| Manufacturing IP | 2011 Share of World Mfg IP | 2013 | | | | 2014 | | | | 2012 Actual | 2013 Actual | 2014 Forecast |
| | | Qtr 1 act | Qtr 2 act | Qtr 3 act | Qtr 4 act | Qtr 1 f | Qtr 2 f | Qtr 3 f | Qtr 4 f | | | |
| United States | 16.1% | 4.8 | 1.5 | 1.7 | 4.8 | 1.1 | 6.6 | 3.1 | 6.4 | 4.4 | 2.9 | 3.5 |
| Brazil | 2.8% | 9.4 | 1.0 | -6.7 | -2.9 | 3.4 | 4.0 | 7.0 | 7.0 | -2.8 | 1.6 | 1.5 |
| Europe | | | | | | | | | | | | |
| EU-28 | 17.9% | 0.9 | 3.2 | 1.7 | 3.1 | 2.6 | 2.3 | 3.1 | 3.1 | -2.3 | -0.4 | 2.7 |
| Eurozone | 12.7% | 0.7 | 3.3 | 0.2 | 2.6 | 2.8 | 2.5 | 3.1 | 3.3 | -2.7 | -0.7 | 2.5 |
| China (Alt IP)* | 21.0% | 8.7 | 6.7 | 9.0 | 9.9 | 6.4 | 7.0 | 7.0 | 6.8 | 5.8 | 8.5 | 6.8 |
| Japan | 9.8% | 2.7 | 5.9 | 7.0 | 7.4 | 6.5 | -0.7 | 3.8 | 3.4 | 0.2 | -0.6 | 4.8 |
| India* | 2.3% | 3.1 | -1.1 | 1.1 | -2.0 | 0.9 | 4.2 | 3.0 | 4.2 | 0.6 | 0.4 | 3.0 |
| World | 69.9% | 3.5 | 3.7 | 3.7 | 5.2 | 3.6 | 3.3 | 3.7 | 4.6 | 1.5 | 1.5 | 3.9 |

Percent changes at seasonally adjusted annual rates, using market exchange rates

Updated March 28, 2014

* China, India are y/y rates

Key Points on Global Economy

- Right now – discerning the impact of winter weather
 - US/Can – severe winter holds back production, employment, transport
 - Boosts utilities, energy production and prices
 - Europe – mild winter is a tailwind
 - In April – will N bounce back? Could policymakers misread?
- BRIC/EM geopolitical risks adding to financial risks
 - Russia/Ukraine • Venezuela • Syria
 - China slowdown; vulnerable India, Turkey, South Africa
- Construction, capital goods and vehicle markets
 - US construction data showing hints of strength, especially in non-resi
 - Capital goods orders gaining ground in NA, EU after soft summer & fall
 - Light vehicles rebounding in Europe, weather stall in US
 - Heavy duty truck market picking up substantial momentum

Satisfactory 2014 economy, better yet for manufacturing

EATON

Powering Business Worldwide