

Trends in Global Markets for Corrugated Packaging

FPPA 16th Annual Convention

March 4, 2013

Dick Storat, President, PSSMA
& President, RSA, Inc.



PSSMA...Multiwall, The Natural Packaging Choice

Paper Shipping Sack Manufacturers' Association (PSSMA)

- National trade association of multiwall sack and bag producers.
- Members represent over 90% of US production
- Industry sales of \$1.2 Billion
- Comprehensive statistical program
- Strong Associate & International Member Program
- Visit www.pssma.org



Richard Storat & Associates, Inc.

- Economic consulting services for the paper packaging and allied industries
 - Focus on industry level analysis of
 - Containerboard and corrugated
 - Kraft paper and multiwall sacks
 - Support Trade Associations in statistical programs and analysis
- Publish **Scoring Boxes™**, a monthly analysis of containerboard markets
 - Timely delivery of key industry statistics
 - Extensive graphs highlight current industry trends
 - Quick-read incisive analysis of market conditions
 - Tools to make informed decisions

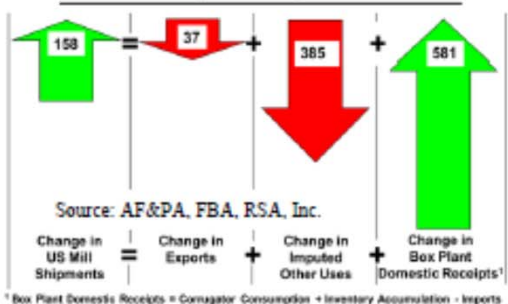


Scoring Boxes™

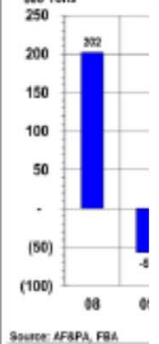
Scoring Boxes™ February 21, 2013

A monthly perspective on conditions in the corrugated and containerboard industry

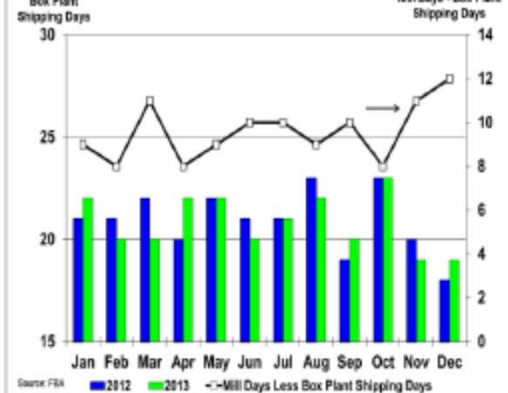
Monthly Change in Containerboard Flows December 2012 → January 2013 (000 Short Tons)



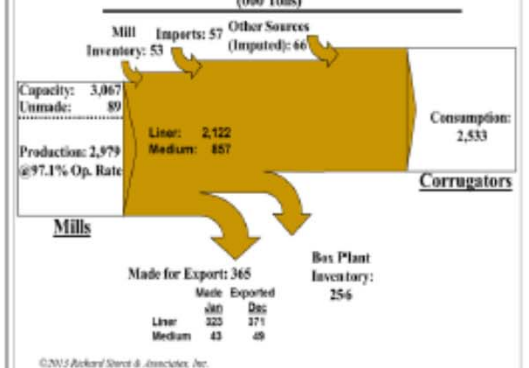
January Box Plant & Mill Containerboard Inventory



Box Plant Shipping Days



Containerboard Flows – January 2013 (000 Tons)

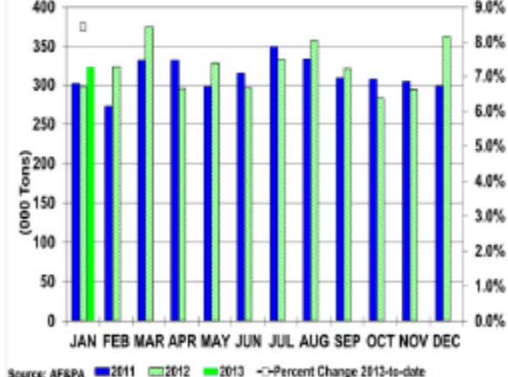


Containerboard Inventory Rebuilding Act

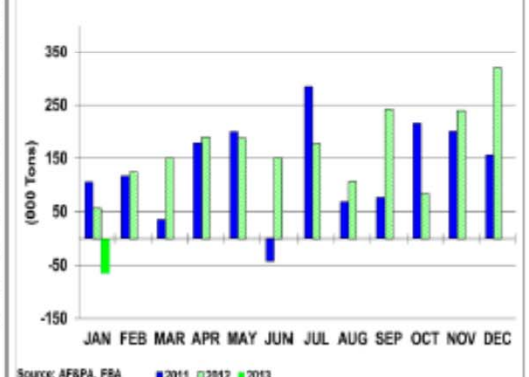
An additional shipping day this January lifted box shipments by 4.6% over last January, while average week shipments, which supply in October, 370,000 tons.

...and the Numbers				
	Latest Data	This Month	Last Month	Last Year
Economy				
Economic Growth (GDP-Quarterly %)	4Q12	4Q: -0.1%	3Q: 3.1%	4Q: 3.0%
Inflation (PPI)	Dec	1.3%	1.5%	4.7%
Purchasing Managers' Index	Jan	53.1	50.7	54.1
Purchasing Managers' New Orders	Jan	53.3	50.3	57.6
Purchasing Managers' Inventories	Jan	51.0	43.0	49.5
NonDurable Cons. Gds. Ind. Prod. (Index) ¹	Jan	94.0	93.6	92.9
NonDurable Goods Consumption ²	Dec	2,105	2,099	2,075
Business Inventory/Sales Ratio	Dec	1.27	1.28	1.26
Industry				
Corrugator Consumption (000 Tons)	Jan	2,533	2,129	2,419
Corrugated Shipments (bsf)	Jan	30.9	26.4	29.5
Linerboard Exports (000 Tons)	Dec	371.3	335.9	366.6
Containerboard Exports (000 Tons)	Dec	420.2	383.4	413.3

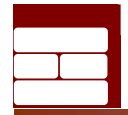
Linerboard Production for Export



Unidentified Uses of Containerboard



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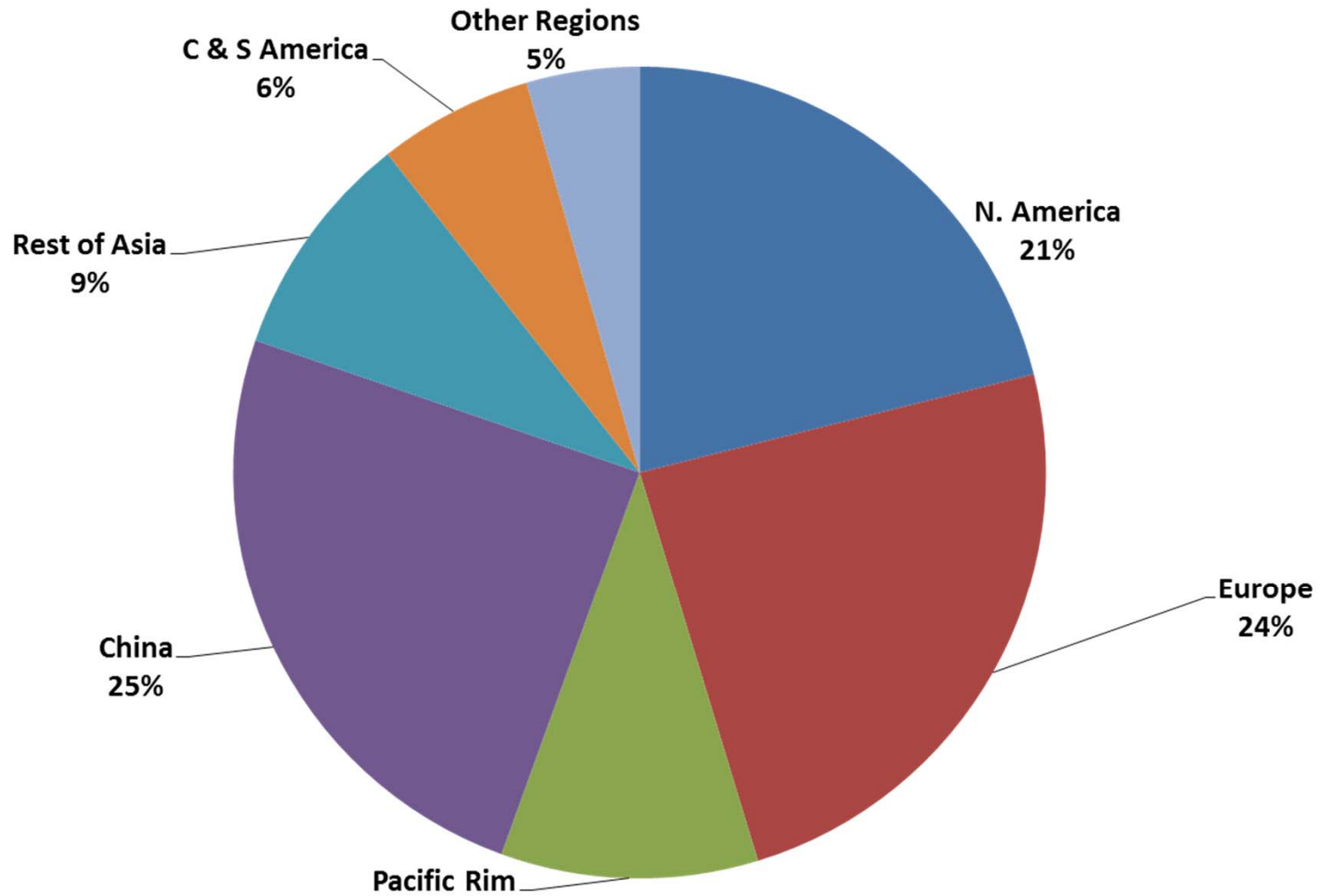
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Agenda

- ✓ Global Corrugated Market Profile and Growth Projections
- ✓ US Corrugated Market Trends



Global Corrugated Production Shares by Area



Source: ICCA

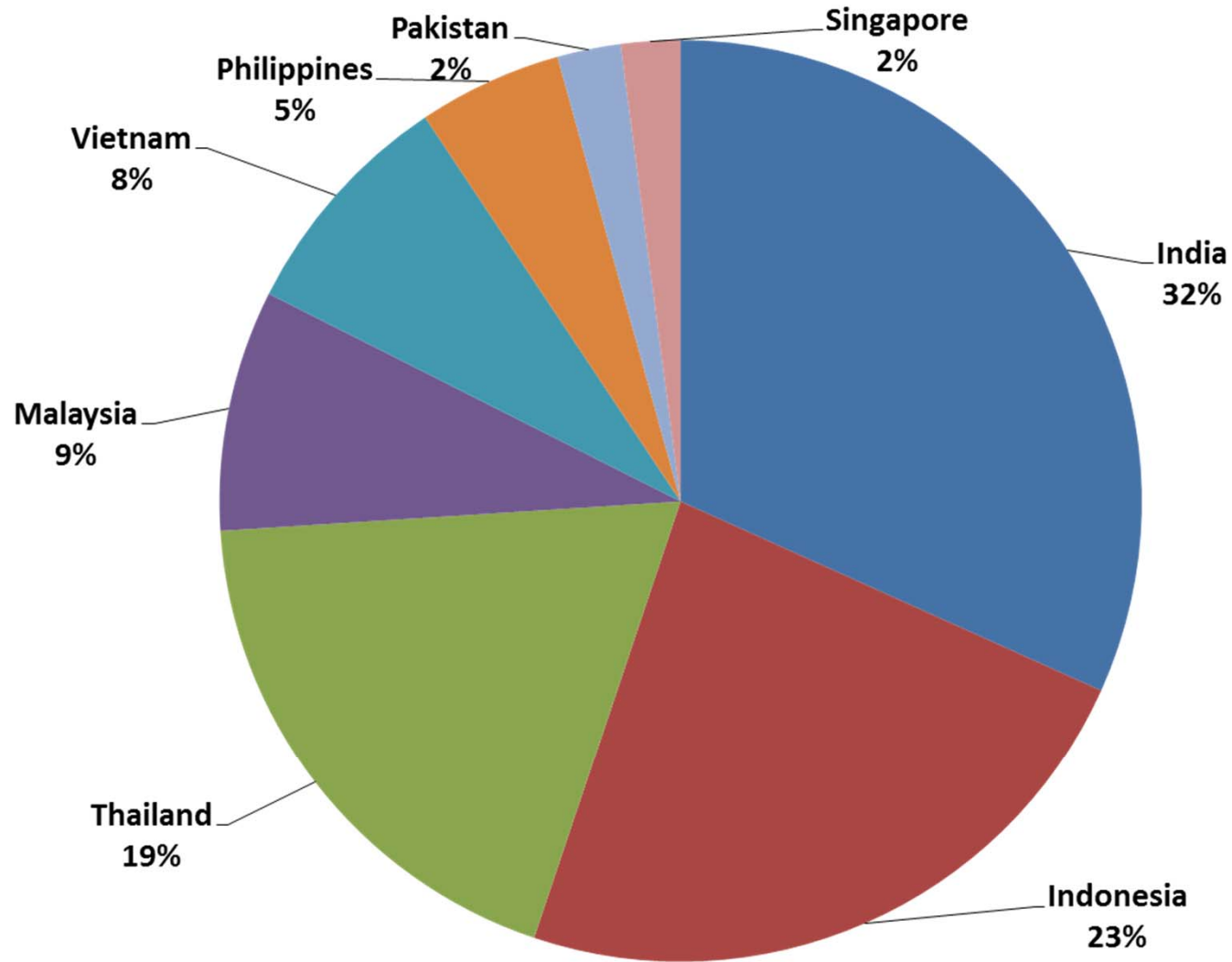
2011 Production = 203 Billion Square Meters

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Asia ex. China Corrugated Production by Weight

9% of World Total or 18 billion square meters

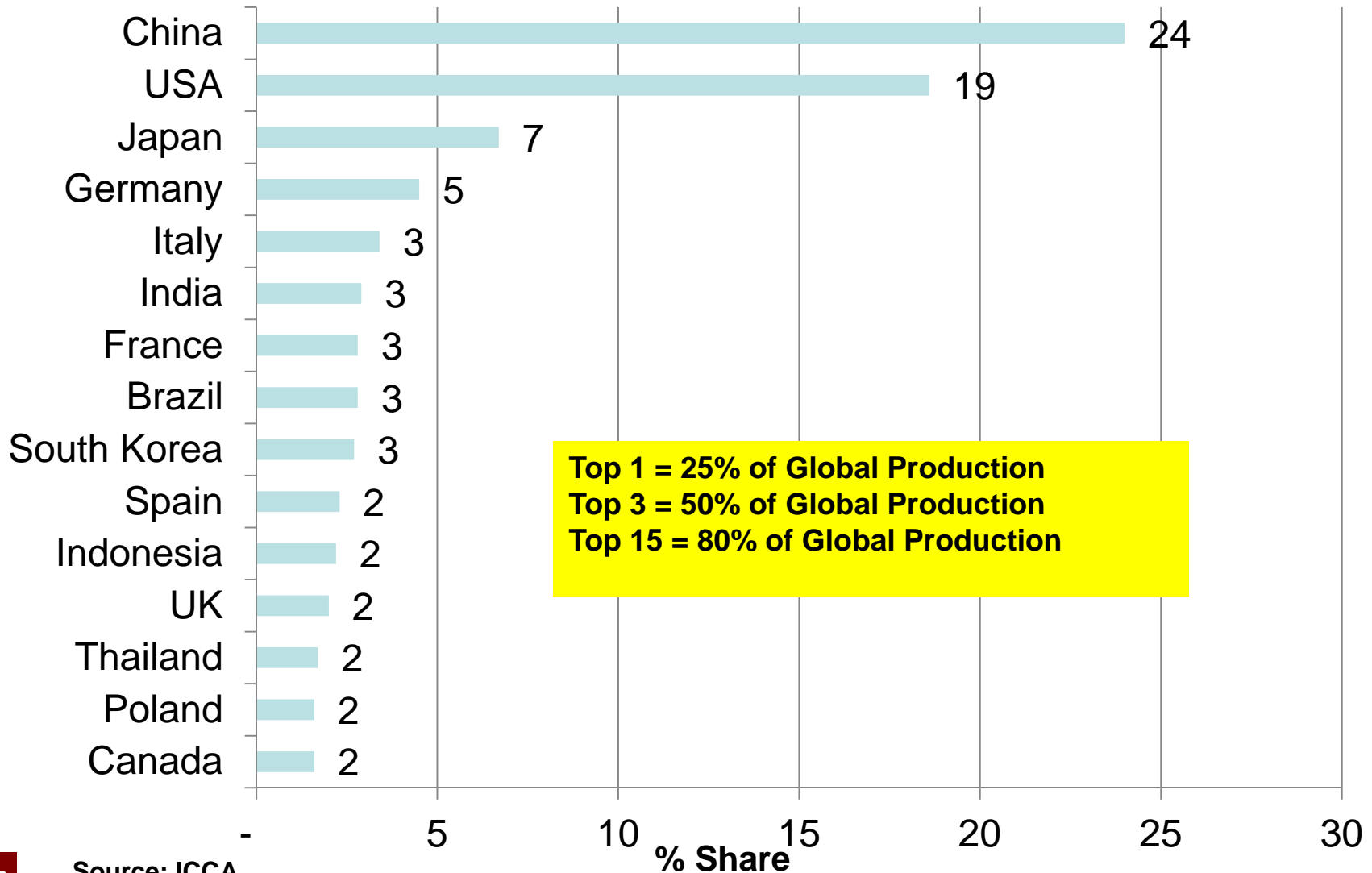


Source: ICCA



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Top 15 Country Ranking by Corrugated Output 2010



Source: ICCA

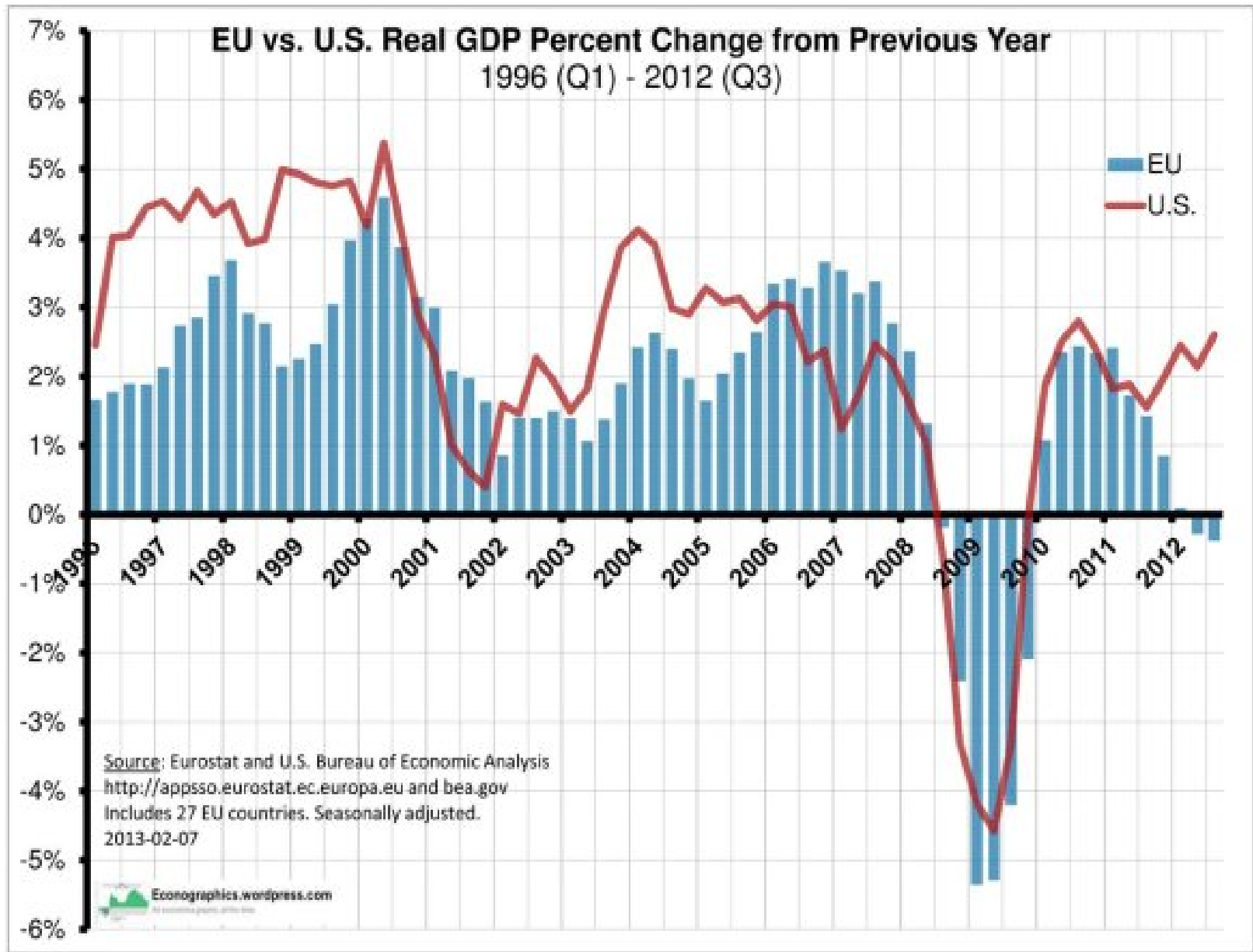
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Factors Affecting Global Corrugated Demand

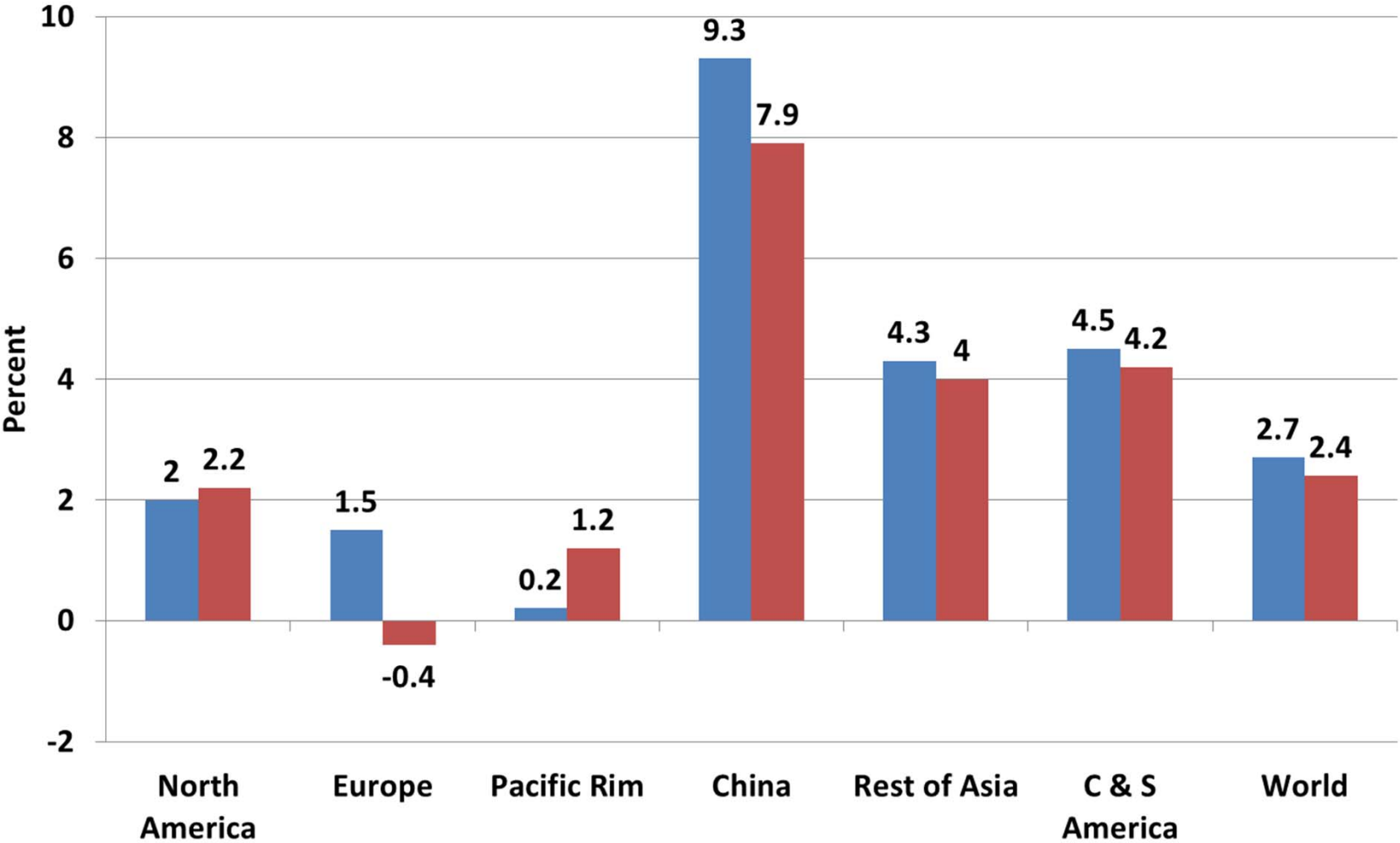
- ✓ Economic Growth
- ✓ Industrial Production
- ✓ Population Growth
- ✓ Per Capita Income and Growth
- ✓ Per Capita Corrugated Consumption
- ✓ Corrugated Construction (Basis Weight)





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World and Regional GDP Growth

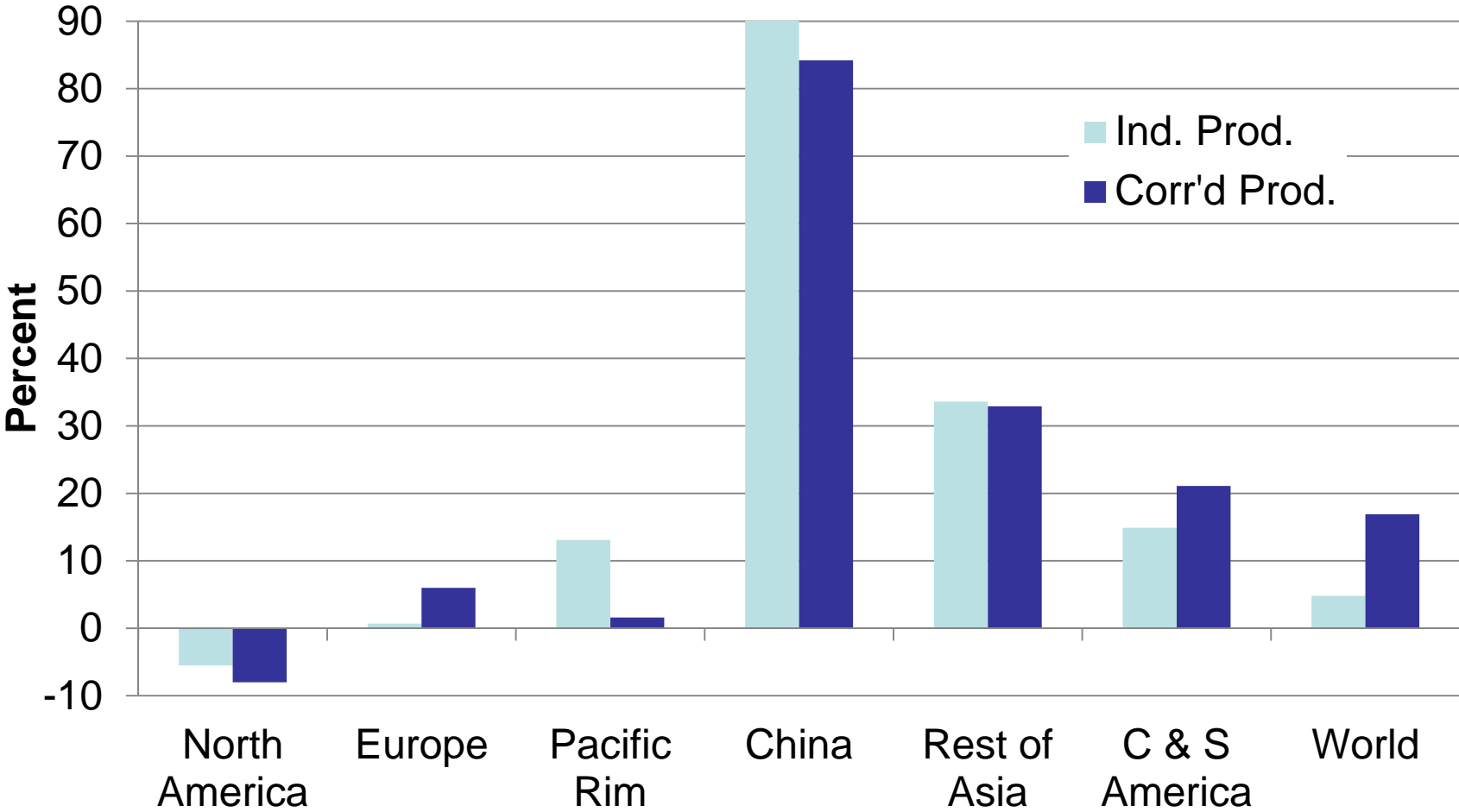


Source: RSA, Inc.

■ 2011 ■ 2013

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Industrial Production vs. Corrugated Production (2005-2010)

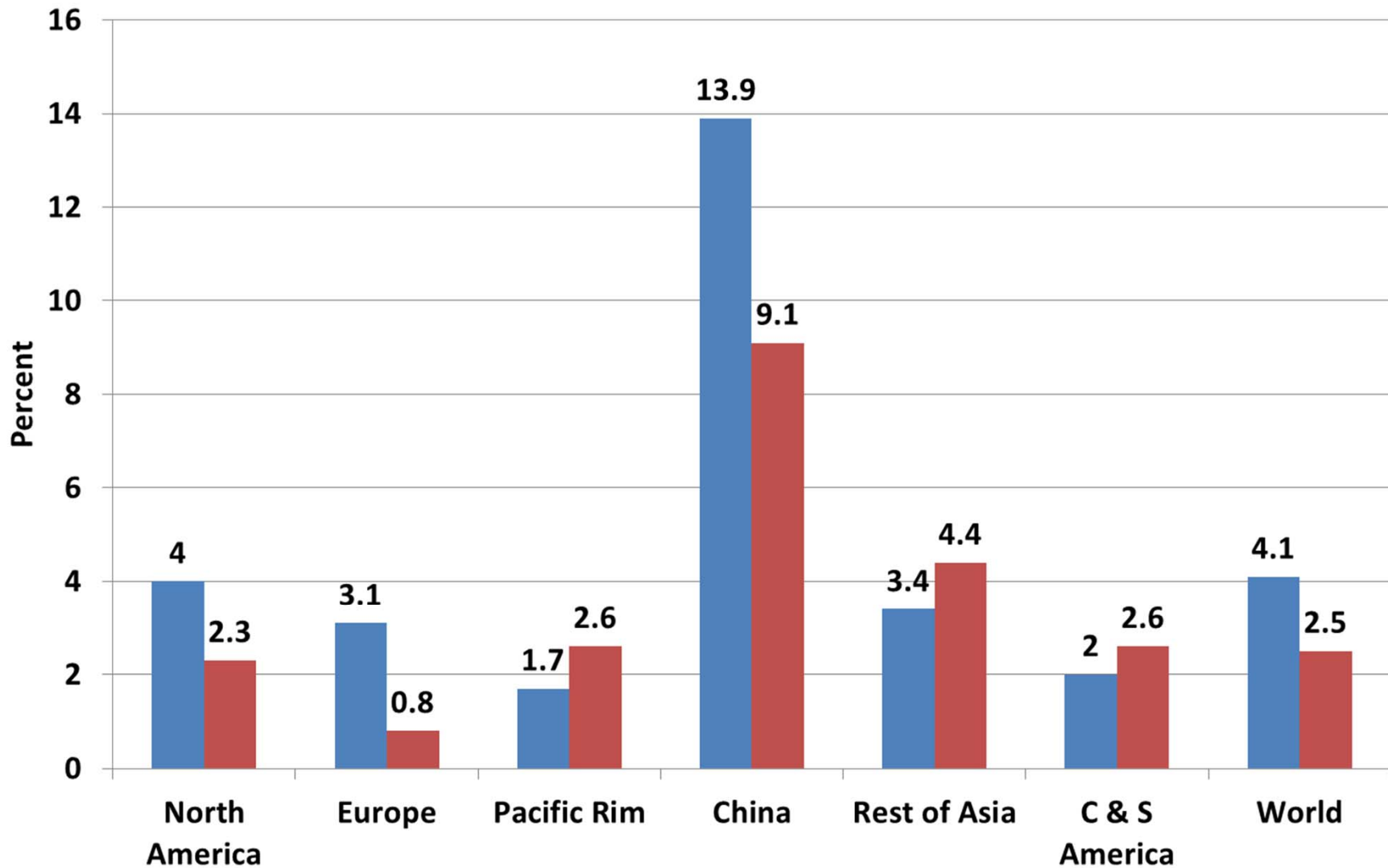


Source: ICCA



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World and Regional Industrial Production Growth



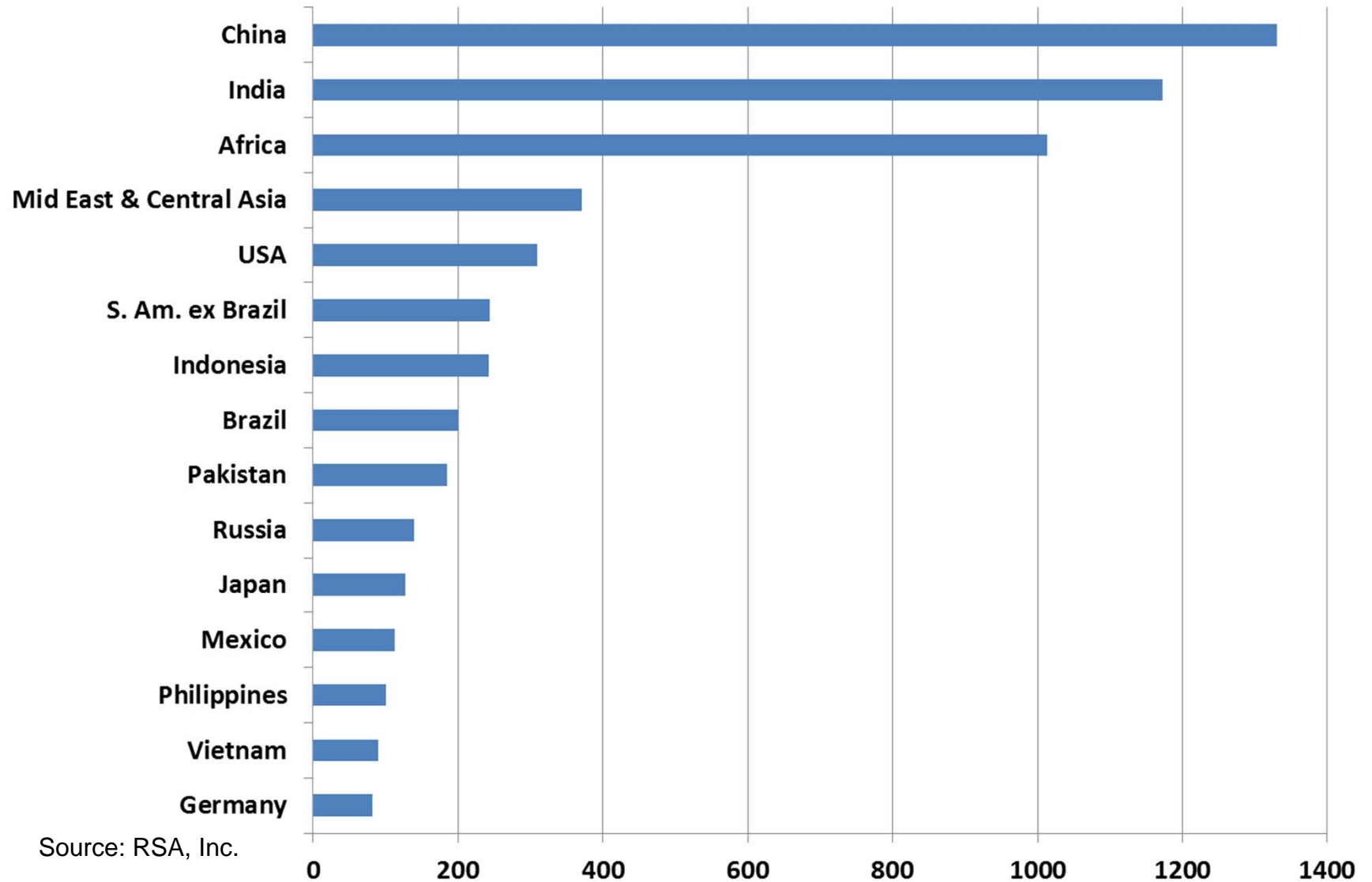
Source: RSA, Inc.

■ 2011 ■ 2013

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2010 Population - Millions

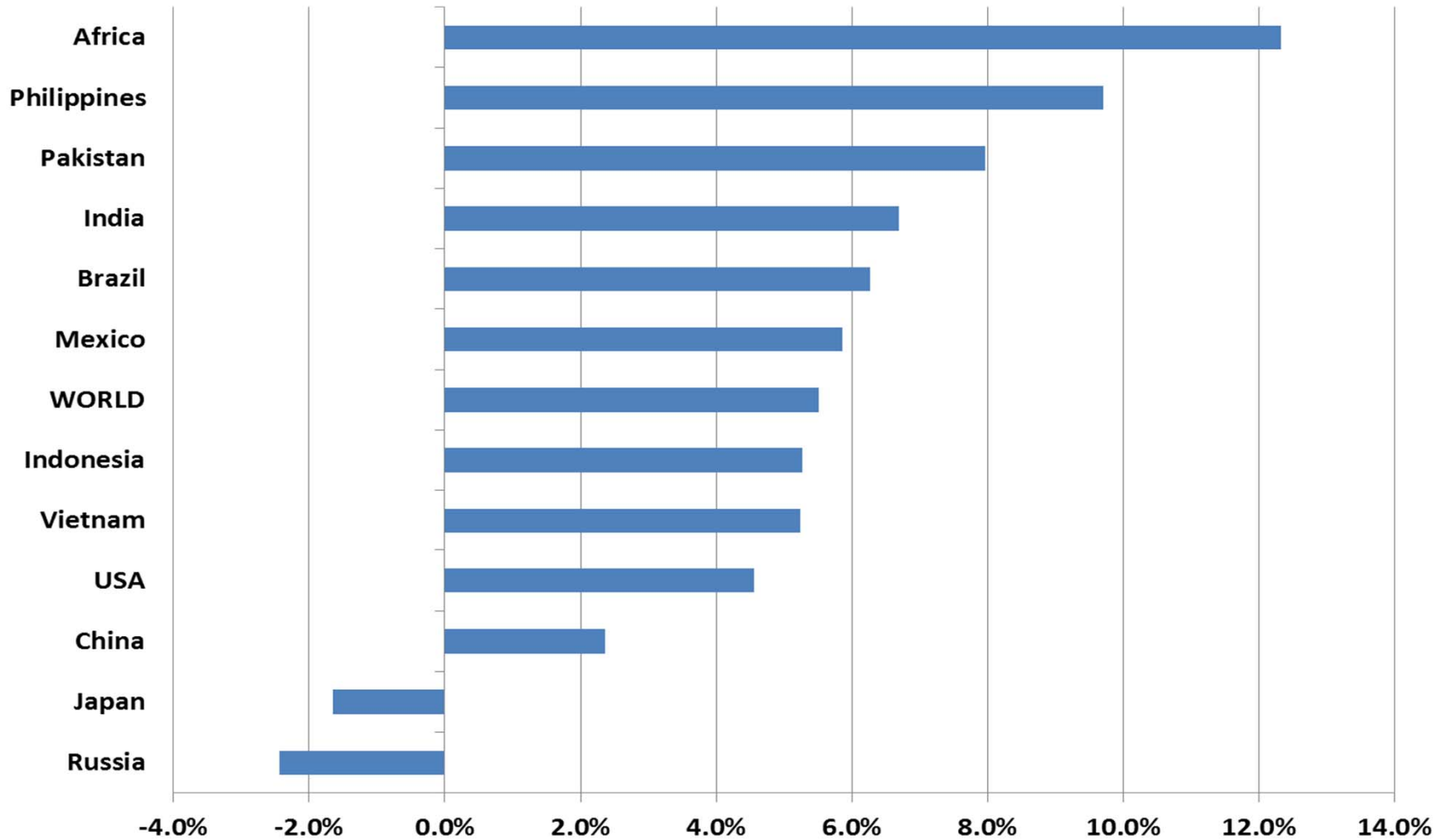


Source: RSA, Inc.



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5 Year Projected Population Growth (2010-2015)

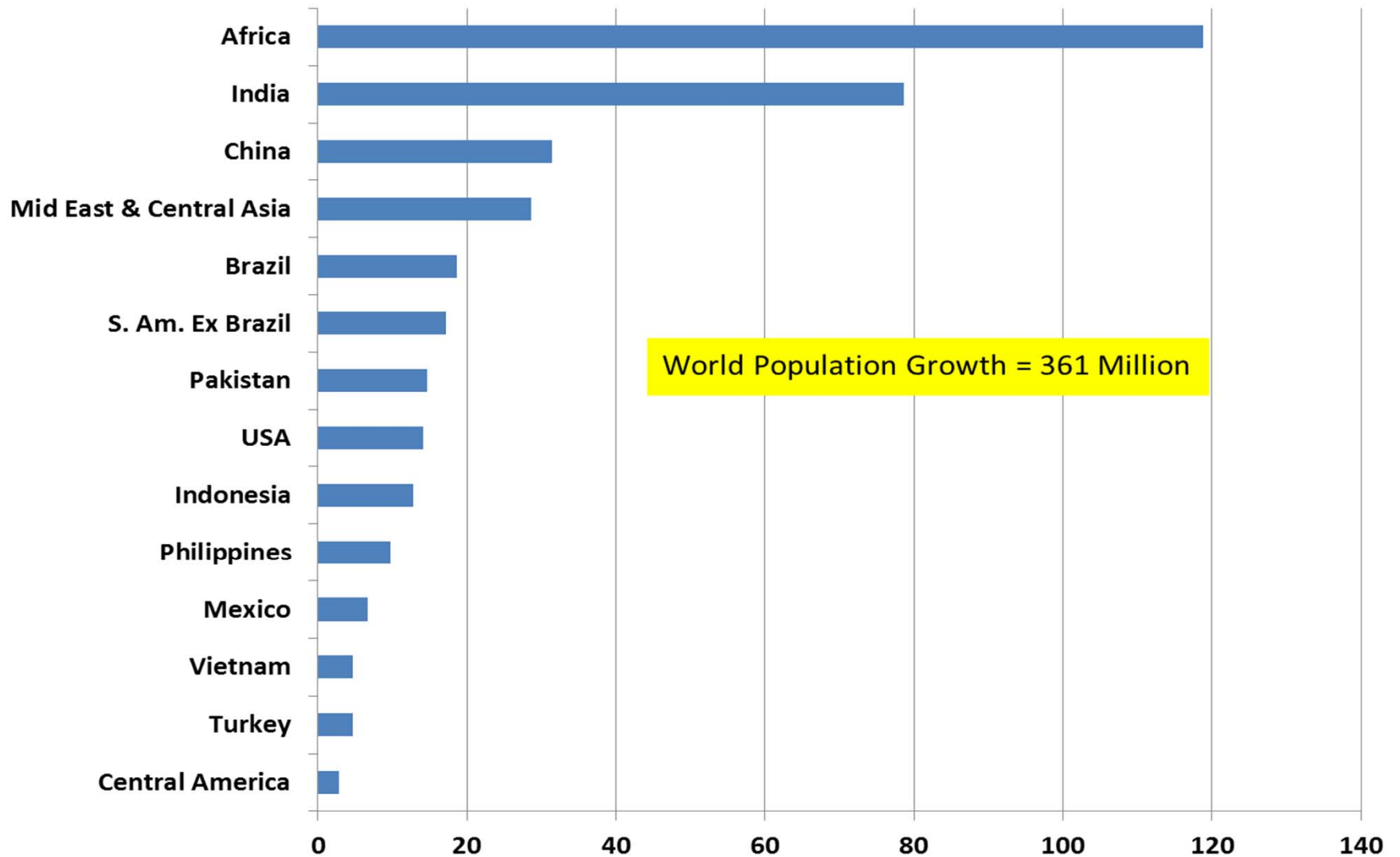


Source: World Bank, RSA, Inc.



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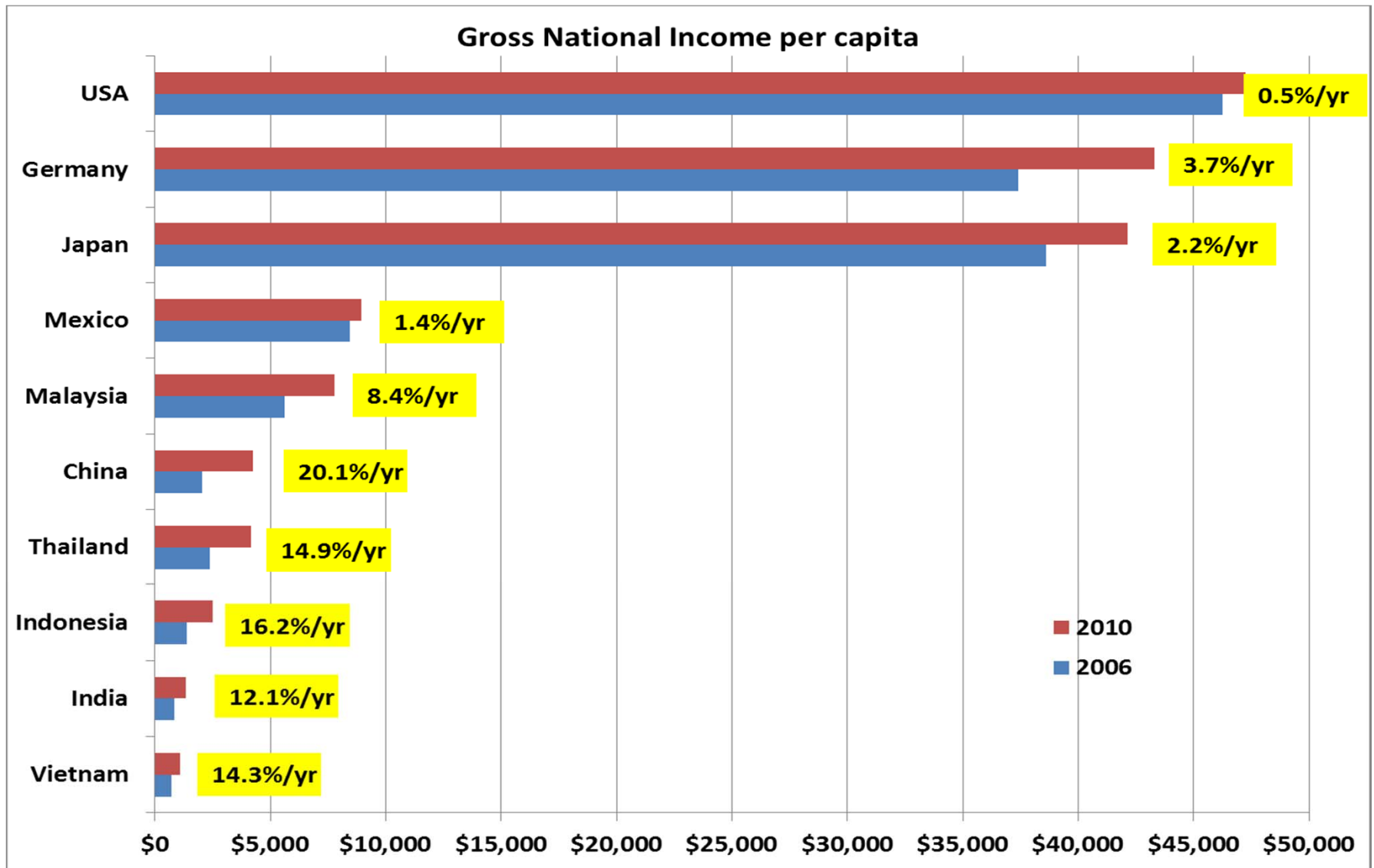
Population Growth 2010-2015 - MILLIONS



Source: World Bank, RSA, Inc.



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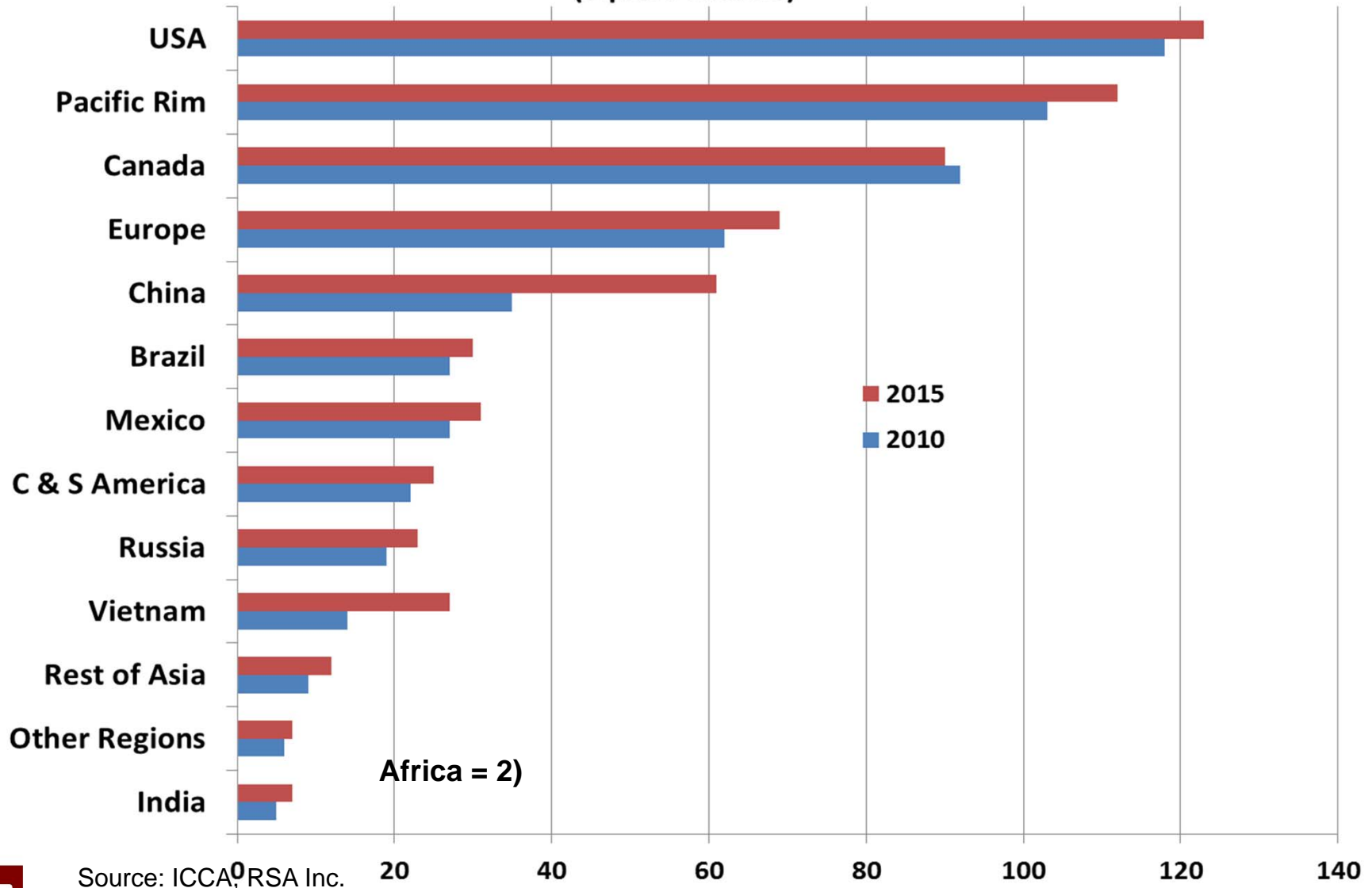


Source: RSA, Inc.



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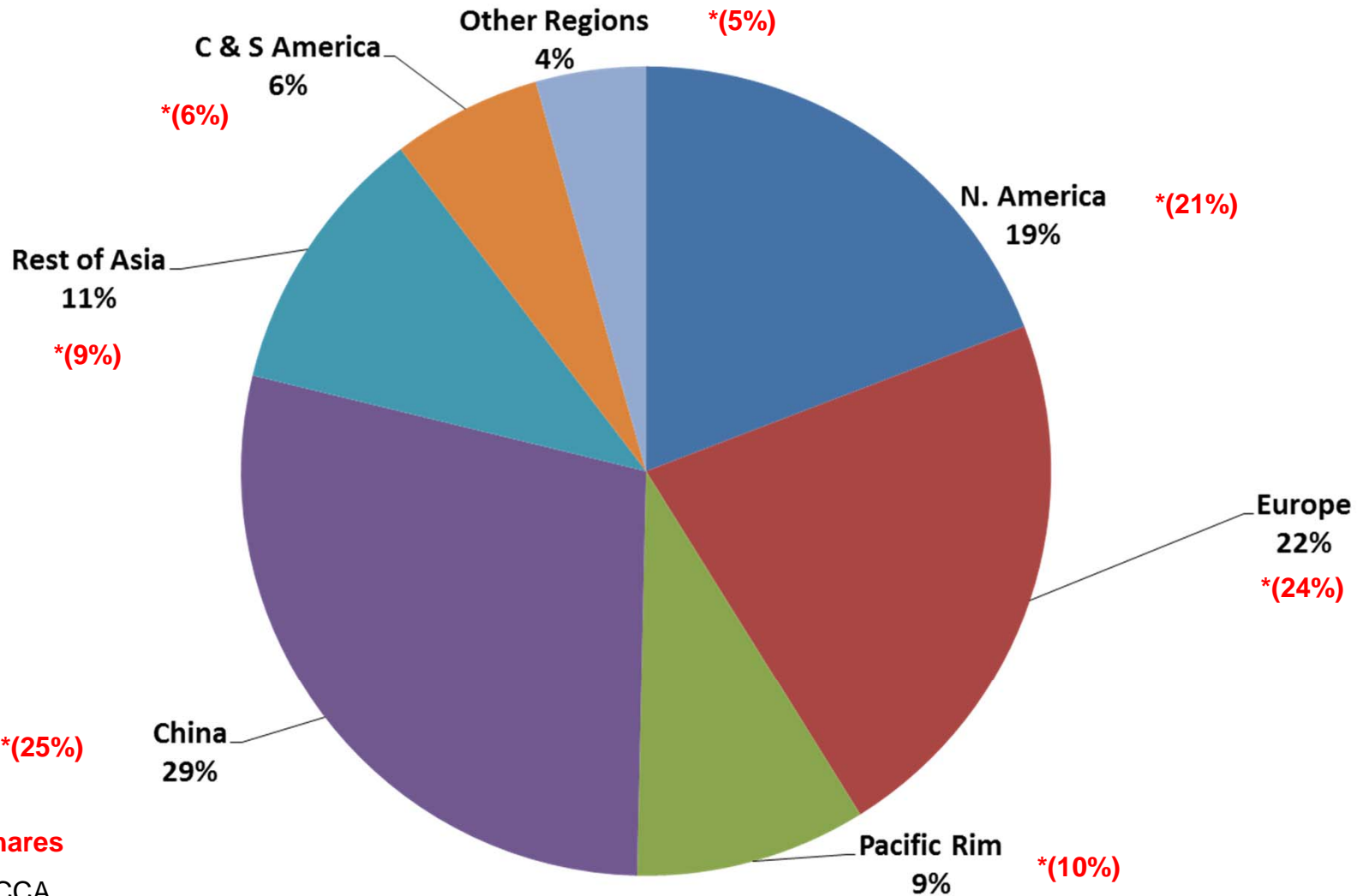
Per Capita Annual Corrugated Consumption (Square Meters)



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Global Corrugated Production Shares by Area



*2011 shares

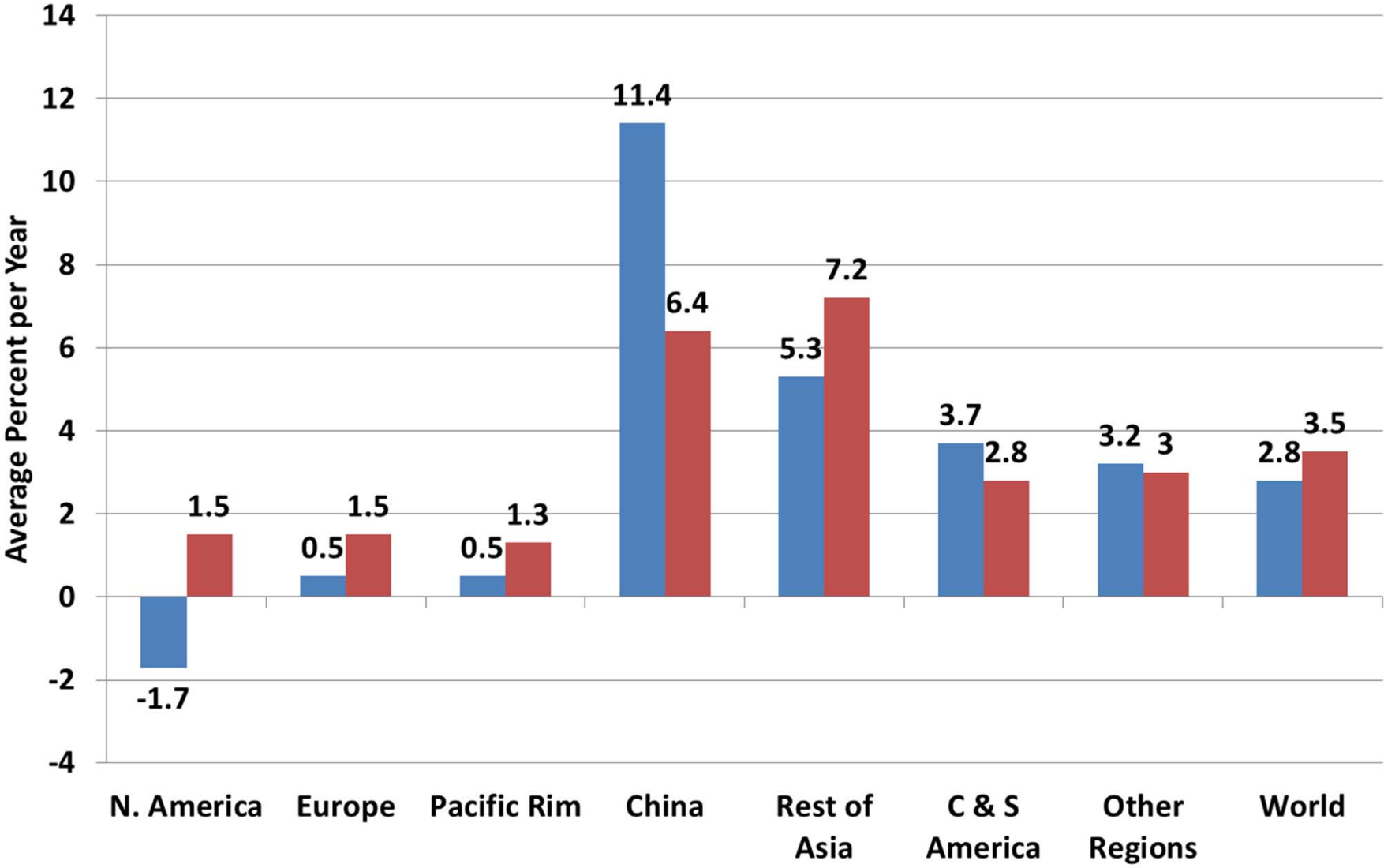
Source: ICCA

2016 Forecast Production = 241 Billion Square Meters

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Global & Regional Corrugated Production Growth



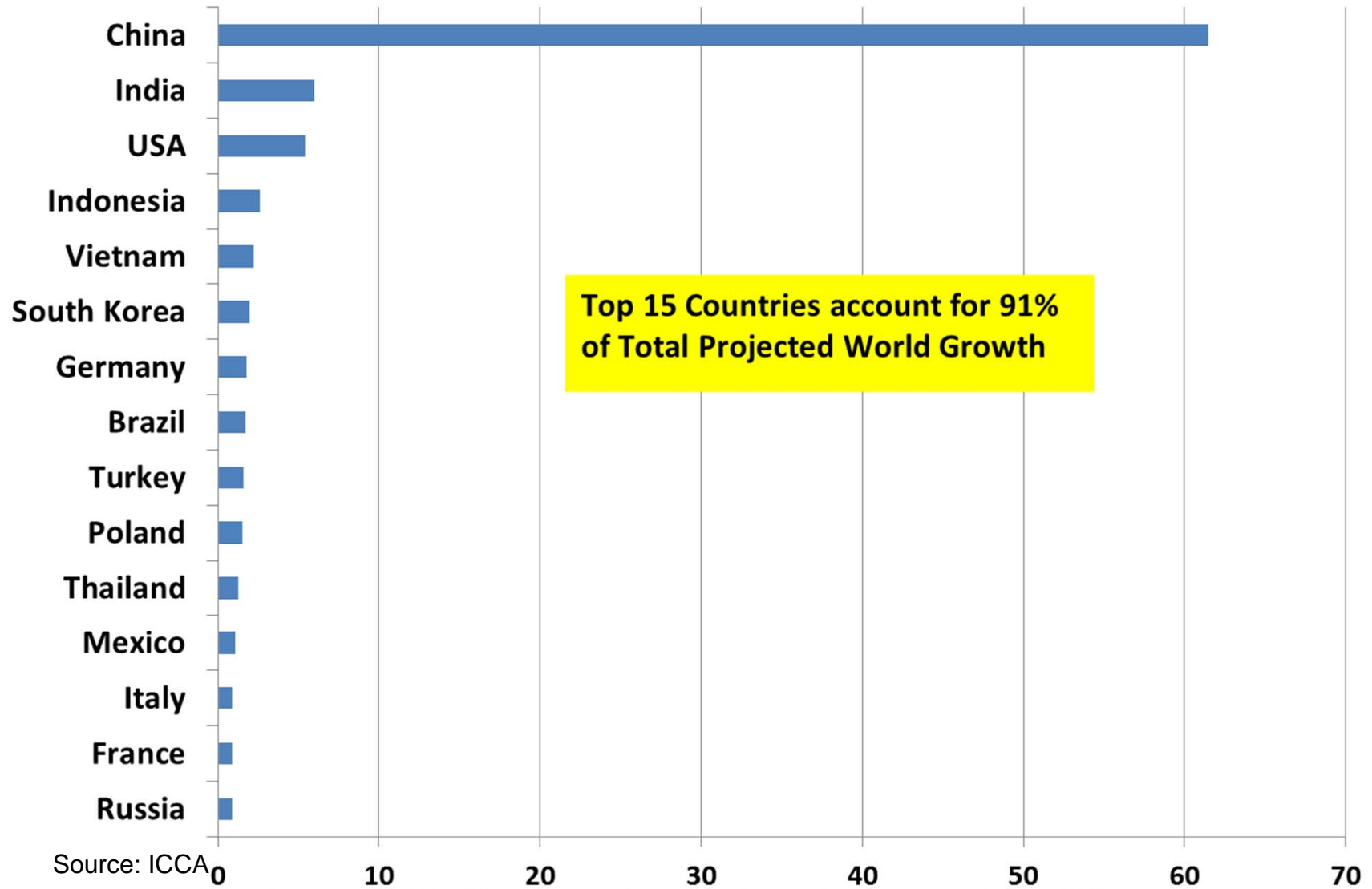
Source: ICCA

■ 2006-2011 ■ 2011-2016

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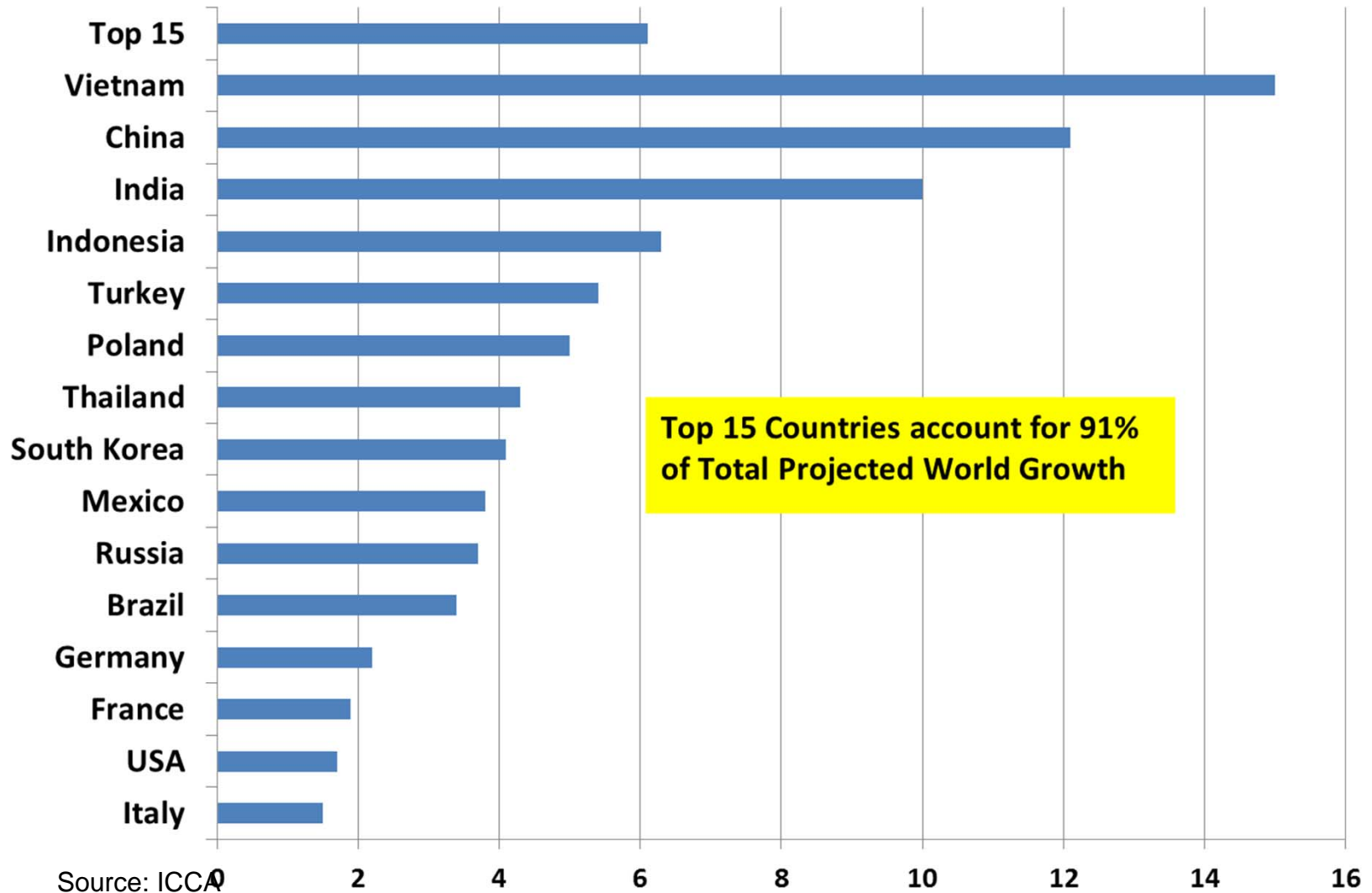


Projected Top 15 Country Corrugated Growth (% Share of Total World Growth)



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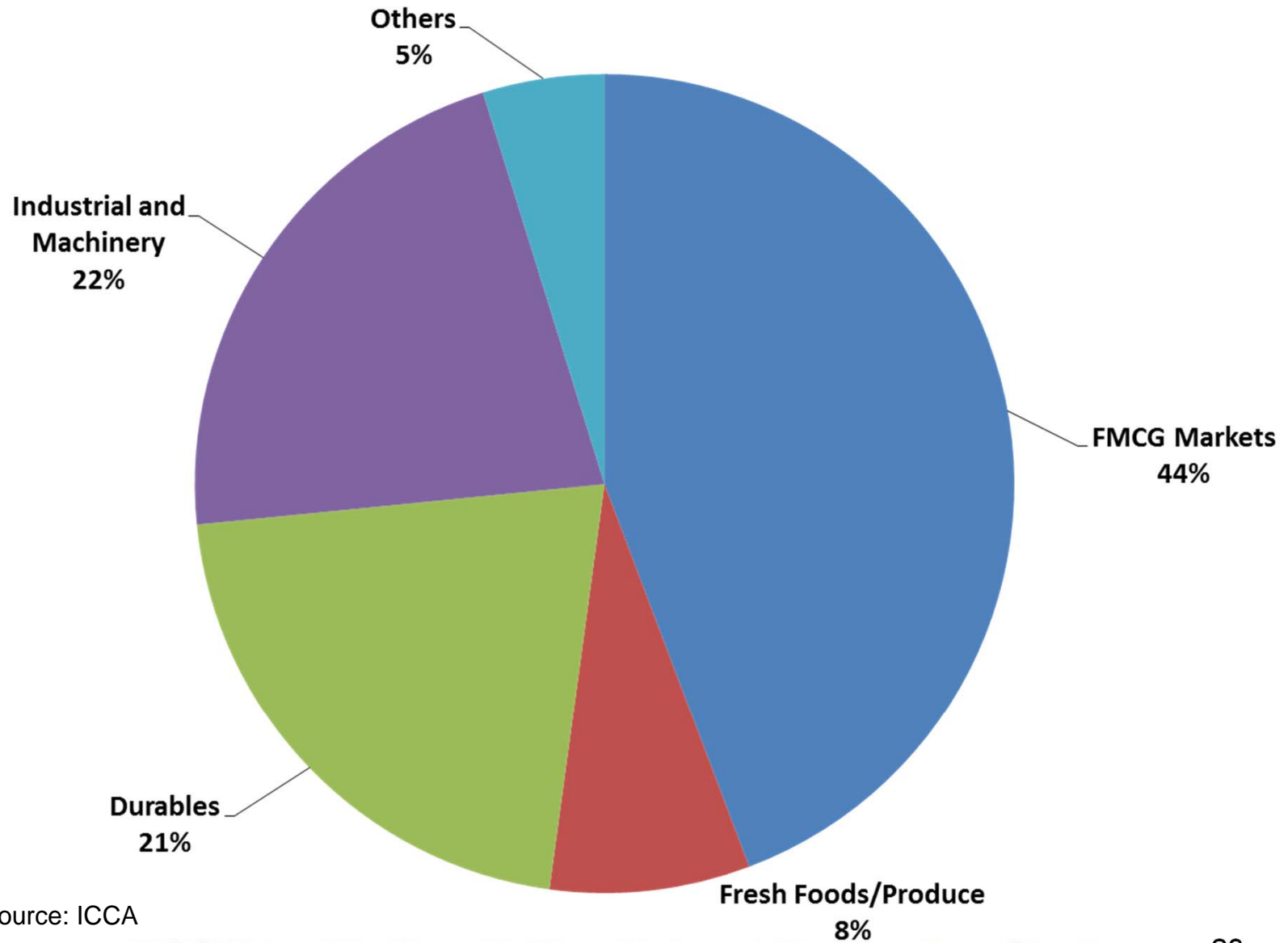
Projected Top 15 Country Corrugated Growth (Average Annual Growth Rate, Percent)



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Source: ICCA

2011 Corrugated Consumption Share by End Use Market

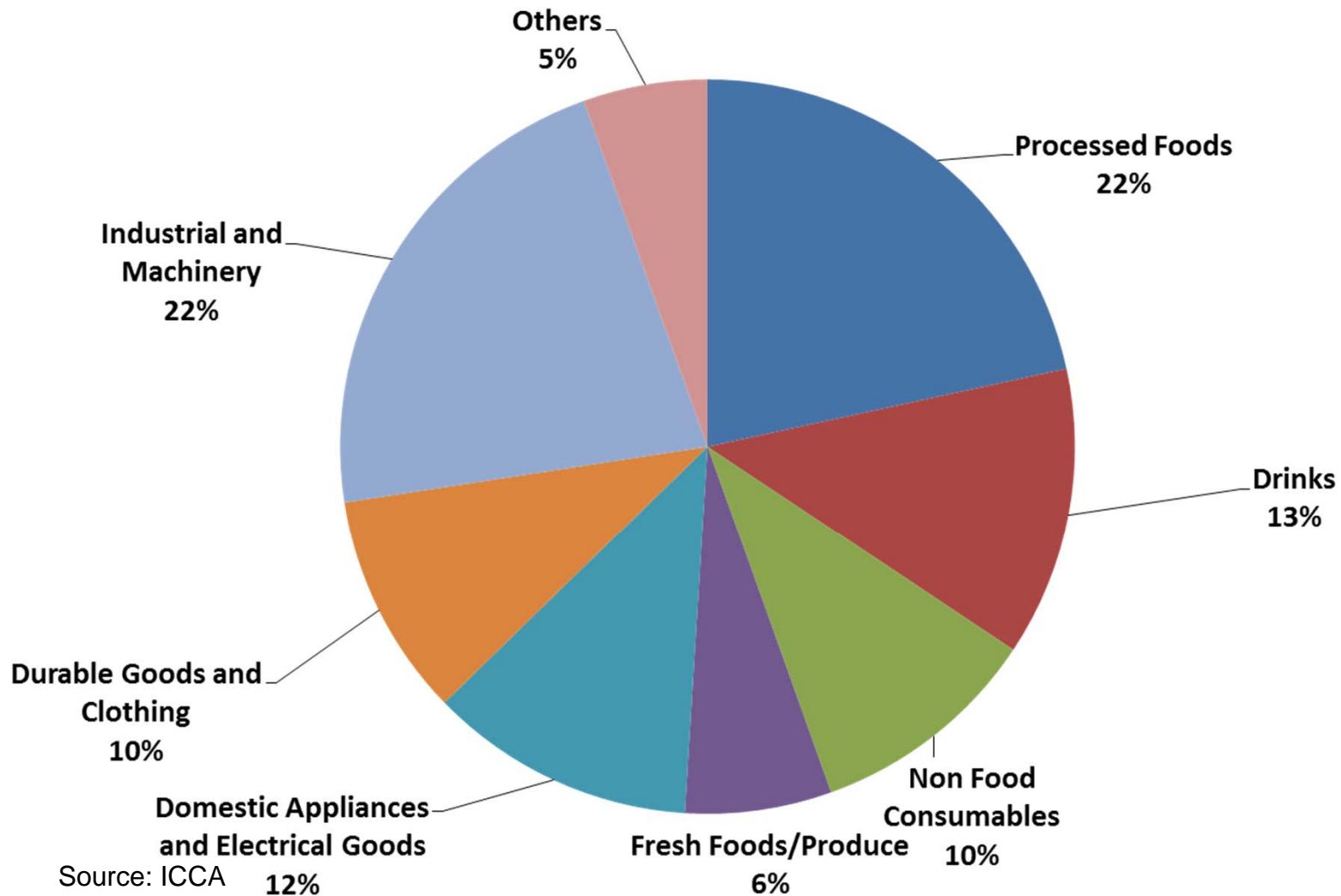


Source: ICCA

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2011-2016 Corrugated Growth Share by End Use Market

Total Projected Growth = 37.8 Billion Square Meters



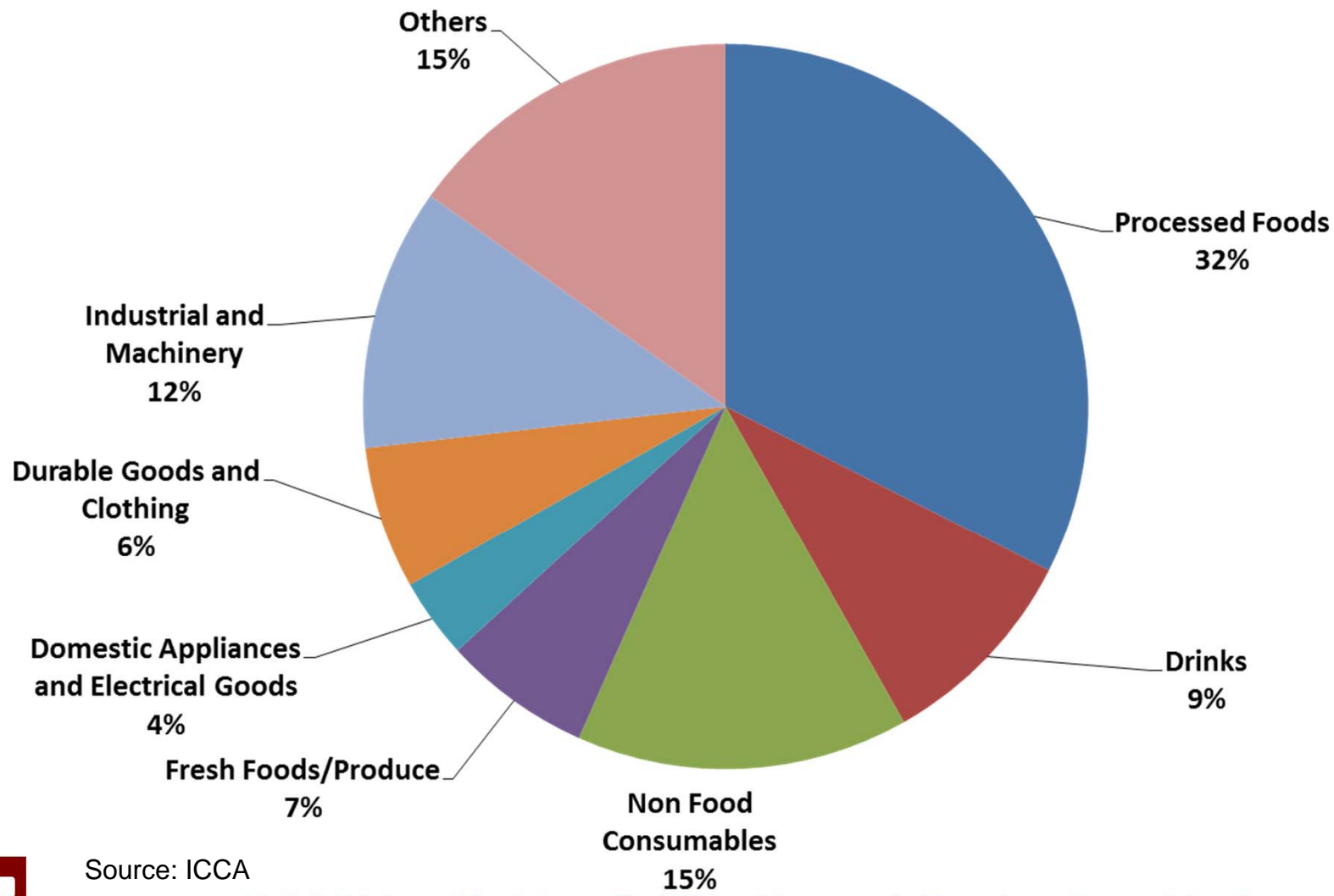
Source: ICCA

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2011-2016 Corrugated Growth Share by End Use Market (Developed Nations)

Total Projected Growth = 7.7 Billion Square Meters



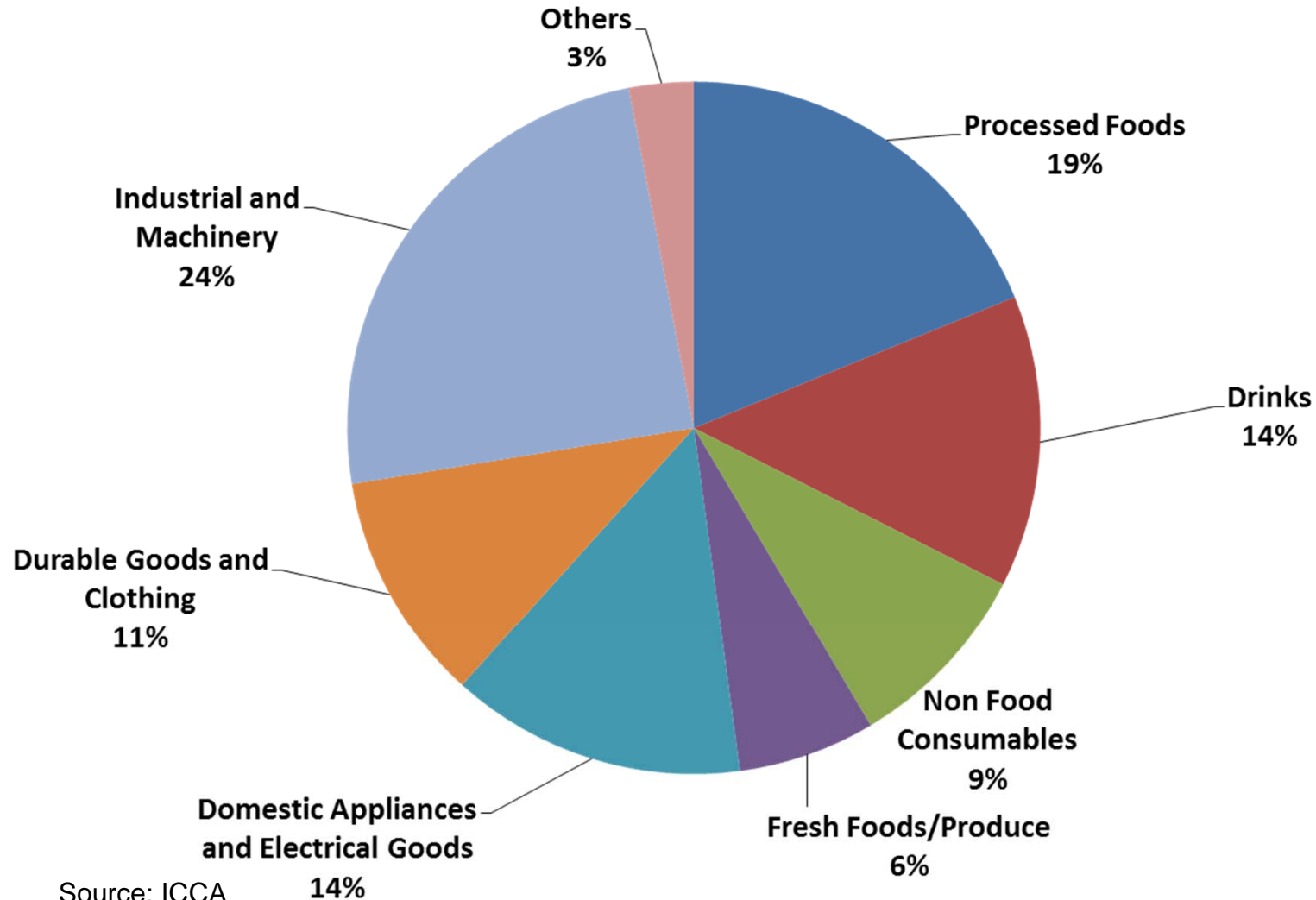
Source: ICCA



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2011-2016 Corrugated Growth Share by End Use Market (Developing Nations)

Total Projected Growth = 30.2 Billion Square Meters (80% of Total)



Source: ICCA

14%

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Global Corrugated Trends Summary

- ✓ Per capita corrugated output will grow by 30-35% in Asia, but marginally elsewhere
- ✓ Better packaging productivity and environmental awareness will drive more packaging reduction
- ✓ Corrugated's share of packaging should not change significantly
- ✓ Global corrugated demand will grow at an average annual rate of 3-4%, compared to 2.8% average growth over the past 5 years.
- ✓ China holds a 25% share of global corrugated output and will contribute half of global corrugated growth.
- ✓ Retail Ready Packaging will grow share of corrugated packaging
- ✓ Microflute continues to offer above average growth potential
- ✓ Decorative print will grow faster than the overall rate of corrugated

Source: RSA, Inc., ICCA

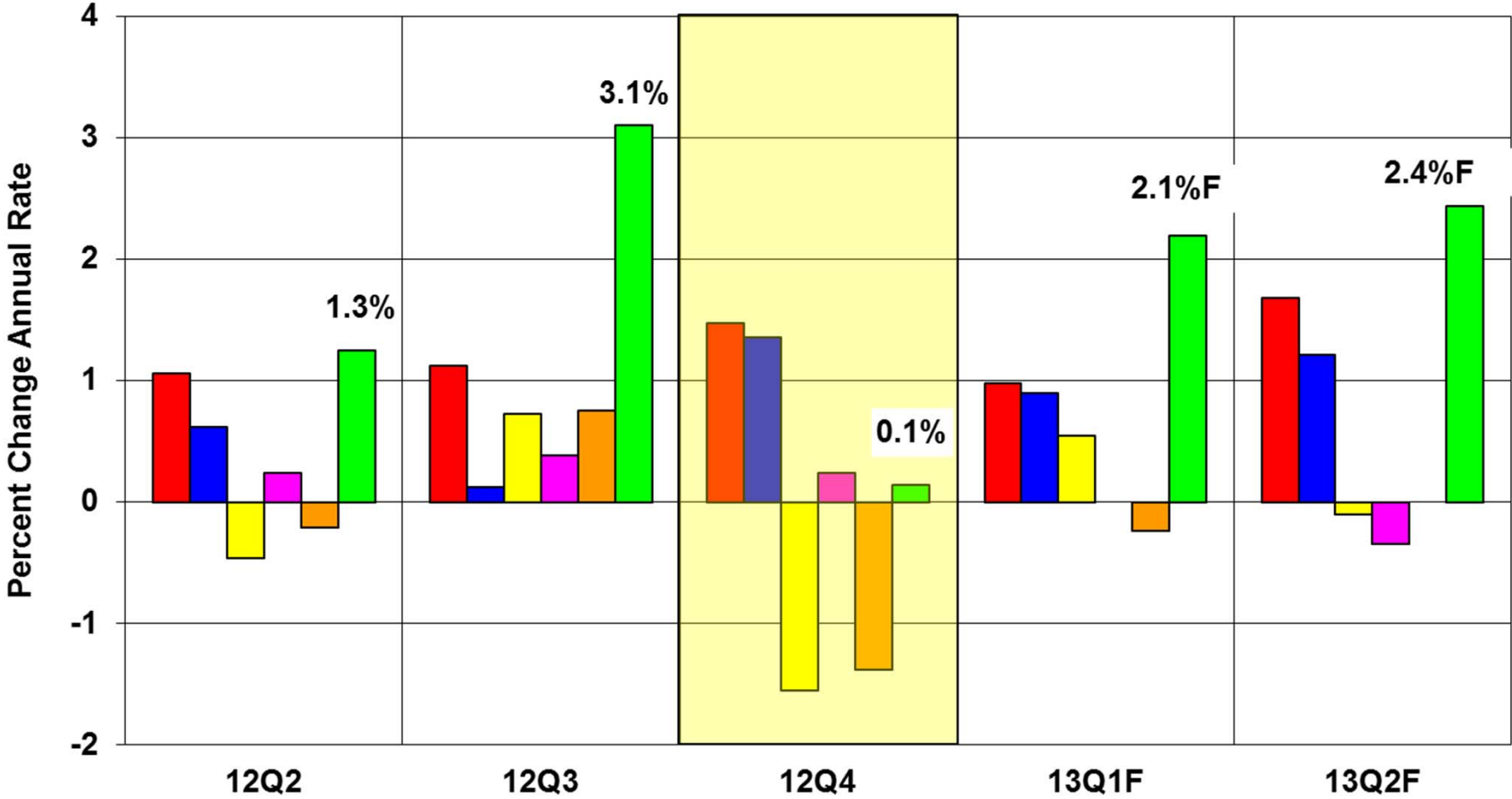


Factors Affecting US Corrugated Markets

- ✓ Economic Activity
- ✓ Consumption of Nondurable Goods
- ✓ Manufacturing Activity
- ✓ Containerboard Consumption
- ✓ Inventory Changes



US GDP by Component & Total



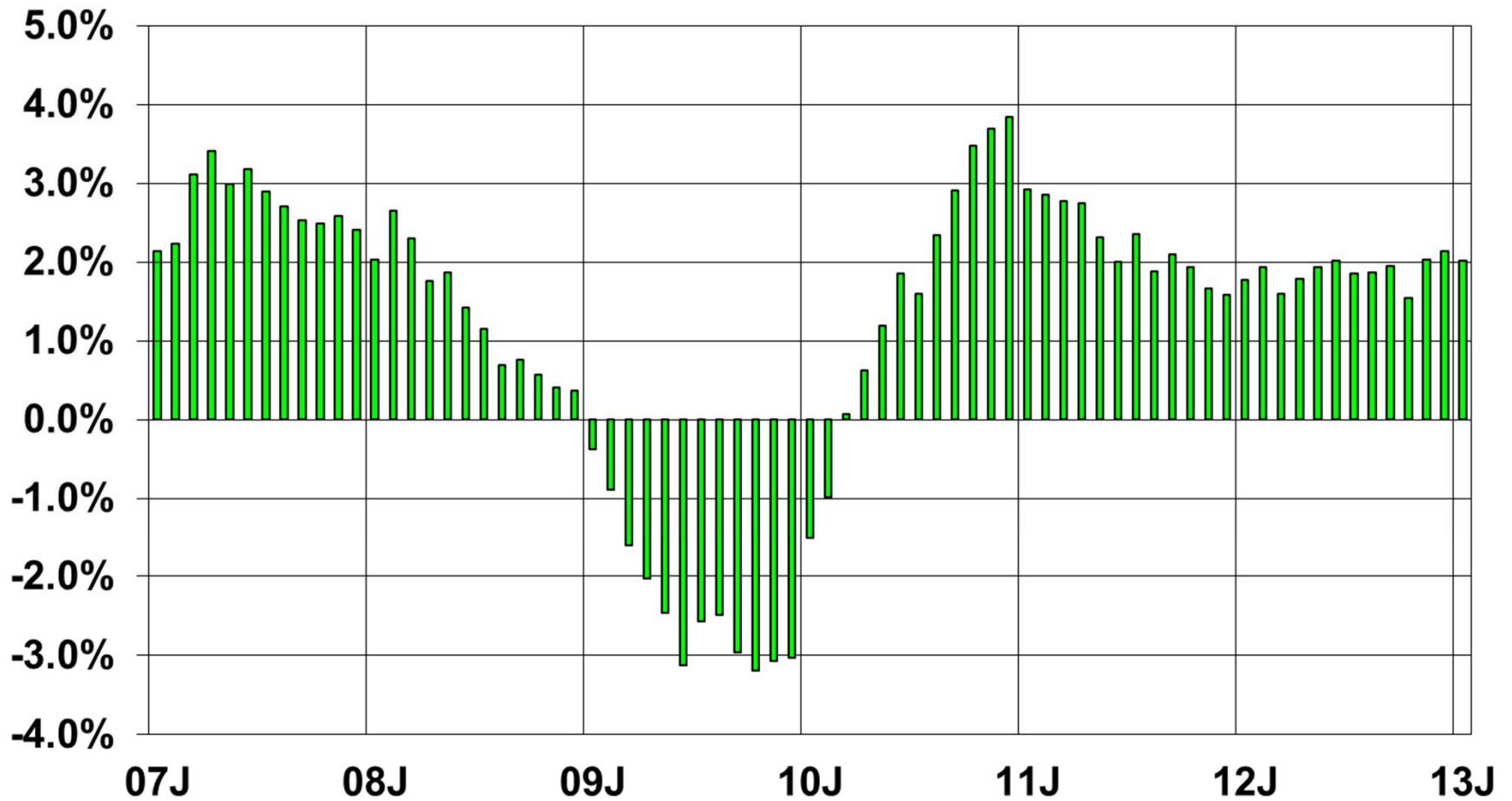
Source: BEA & RSA, Inc.

■ Spending
 ■ Investment
 ■ Inventory
 ■ Trade
 ■ Gov't
 ■ Total



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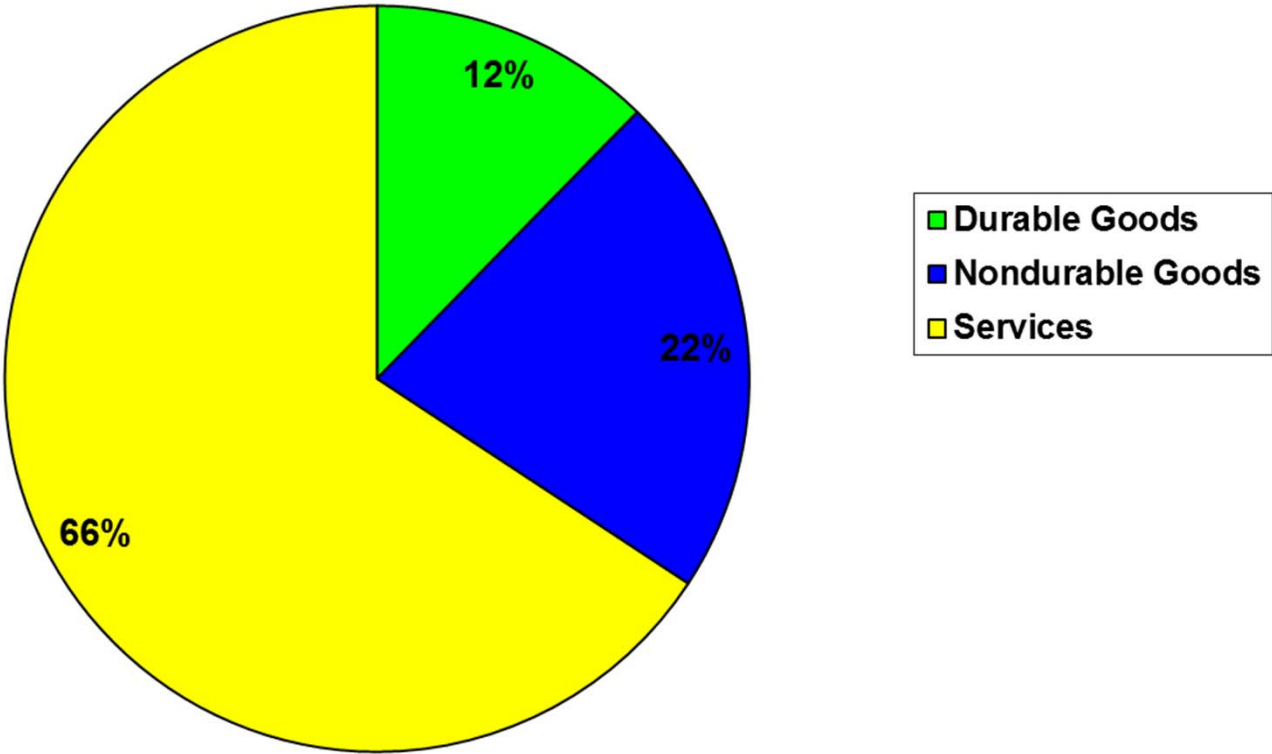
Consumer Spending Year-over-Year Percentage Change



Source: BEA

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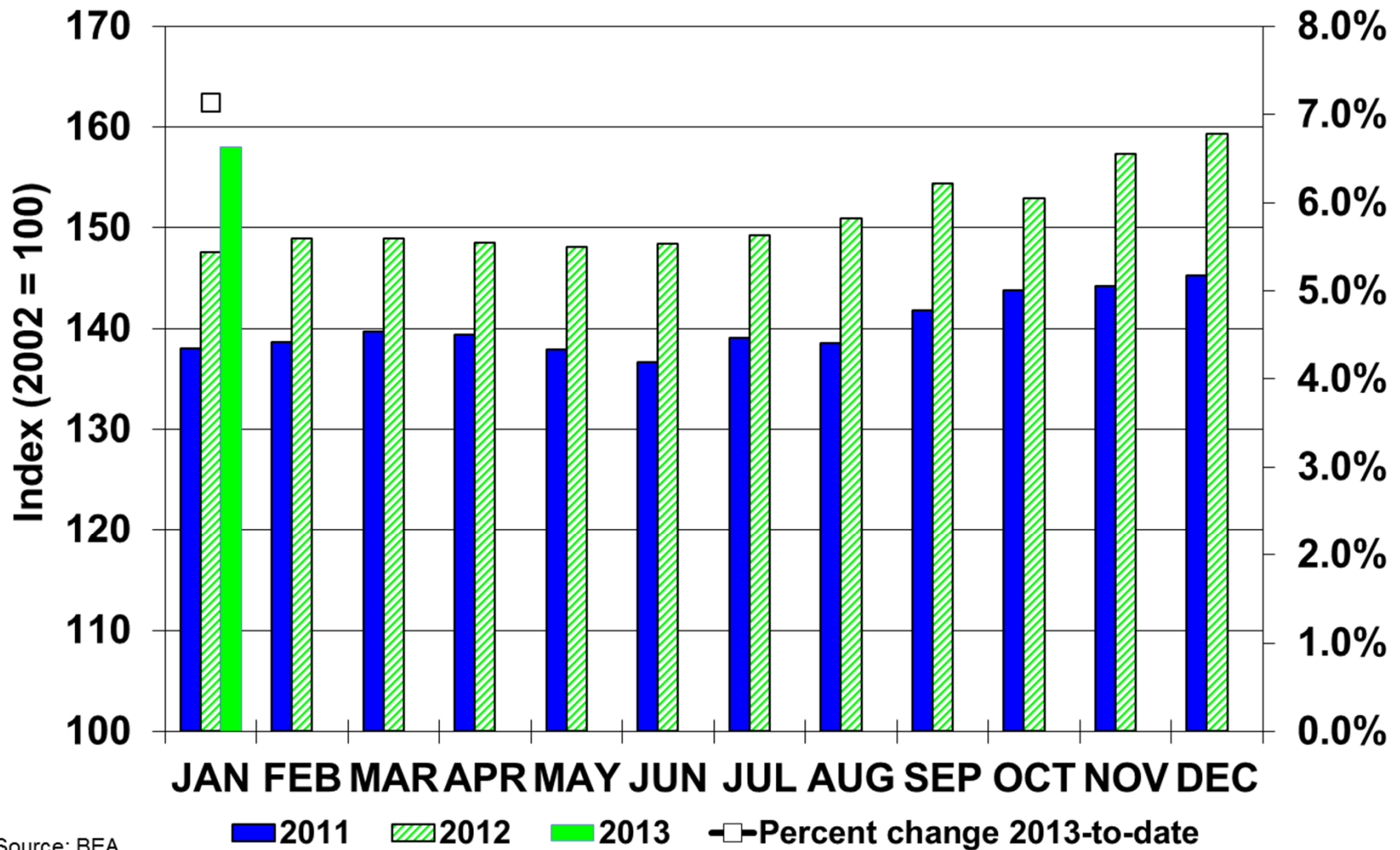
Personal Consumption Expenditures by Category



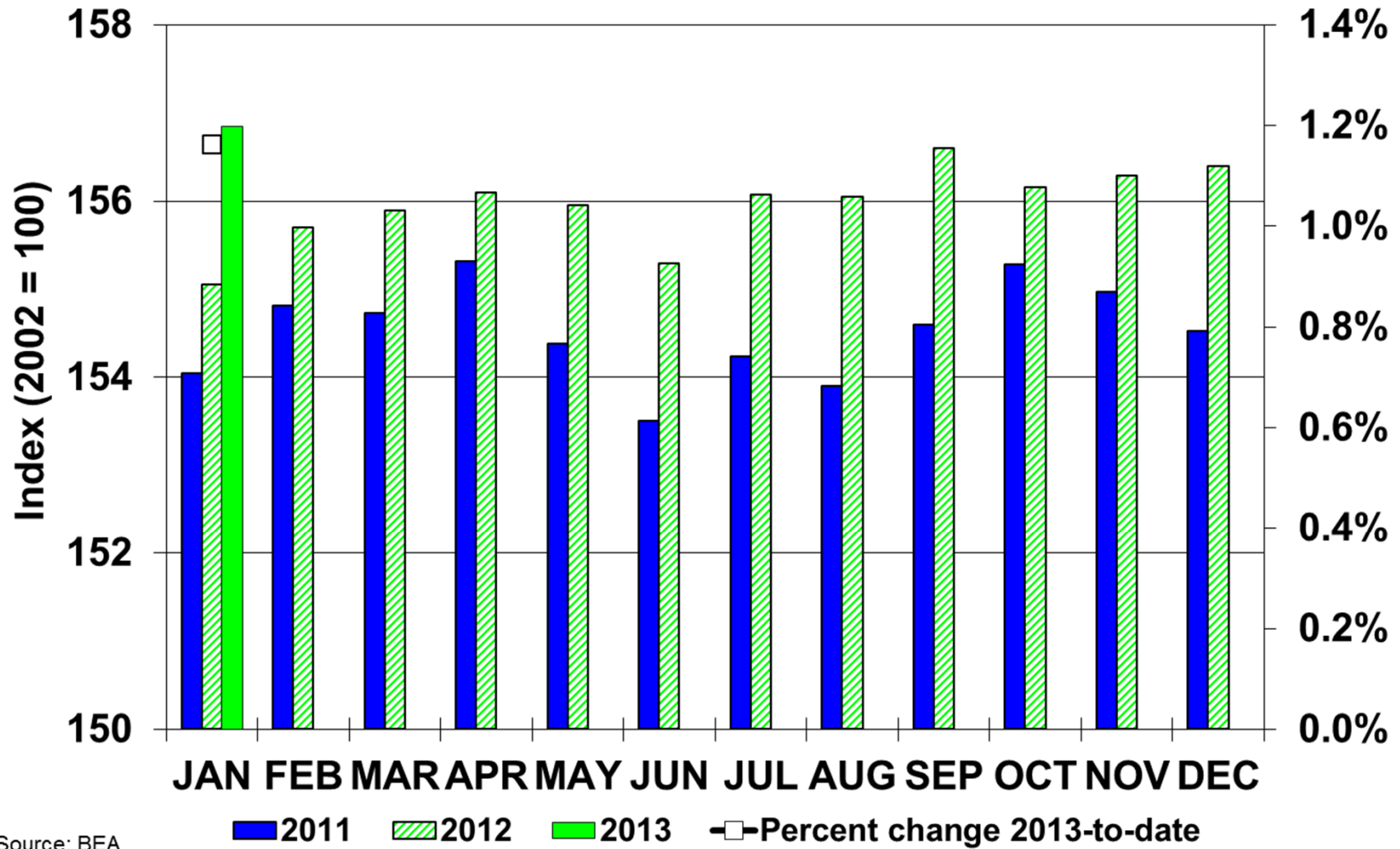
Source: BEA



Consumer Spending Durable Goods



Consumer Spending Nondurable Goods

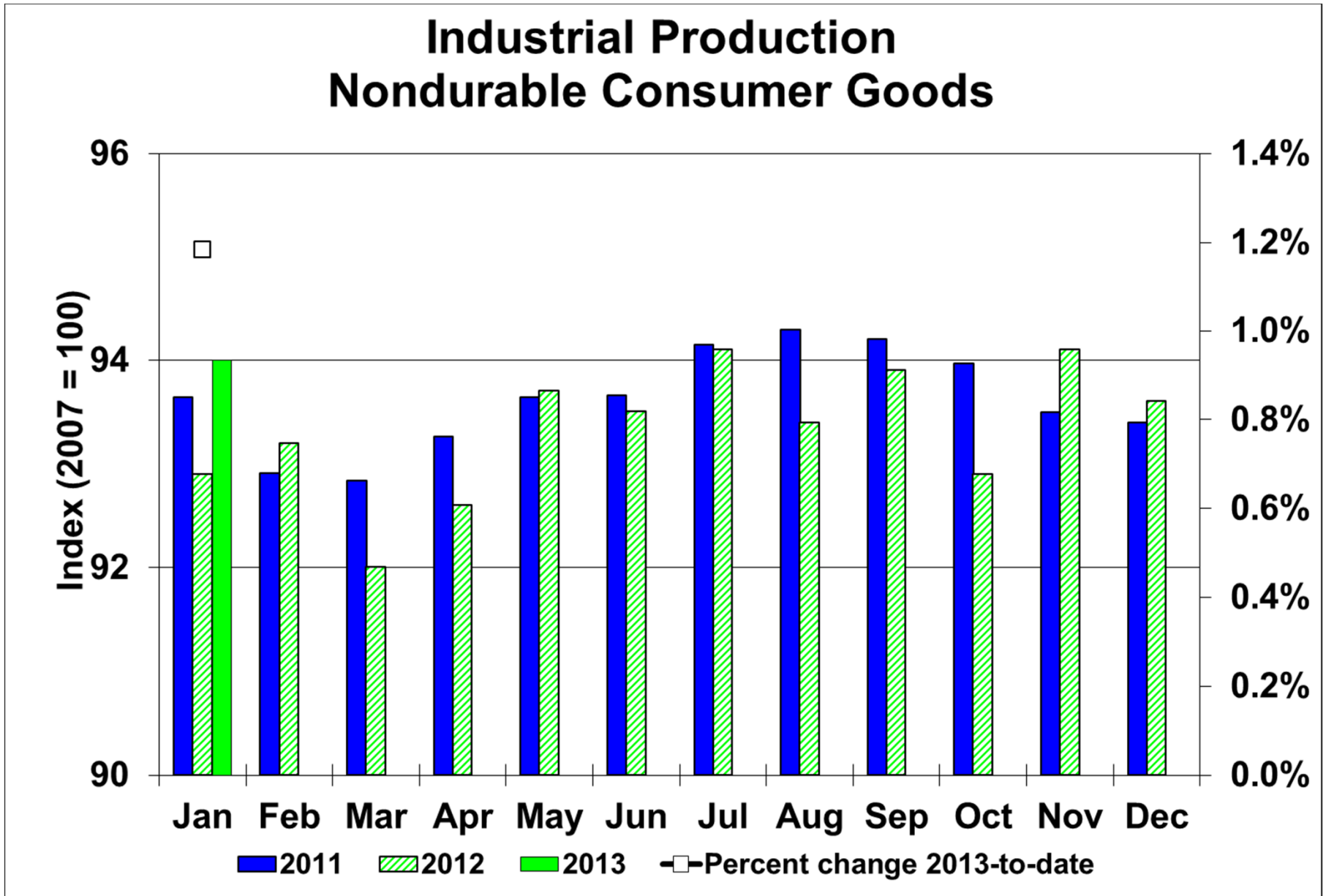


Source: BEA



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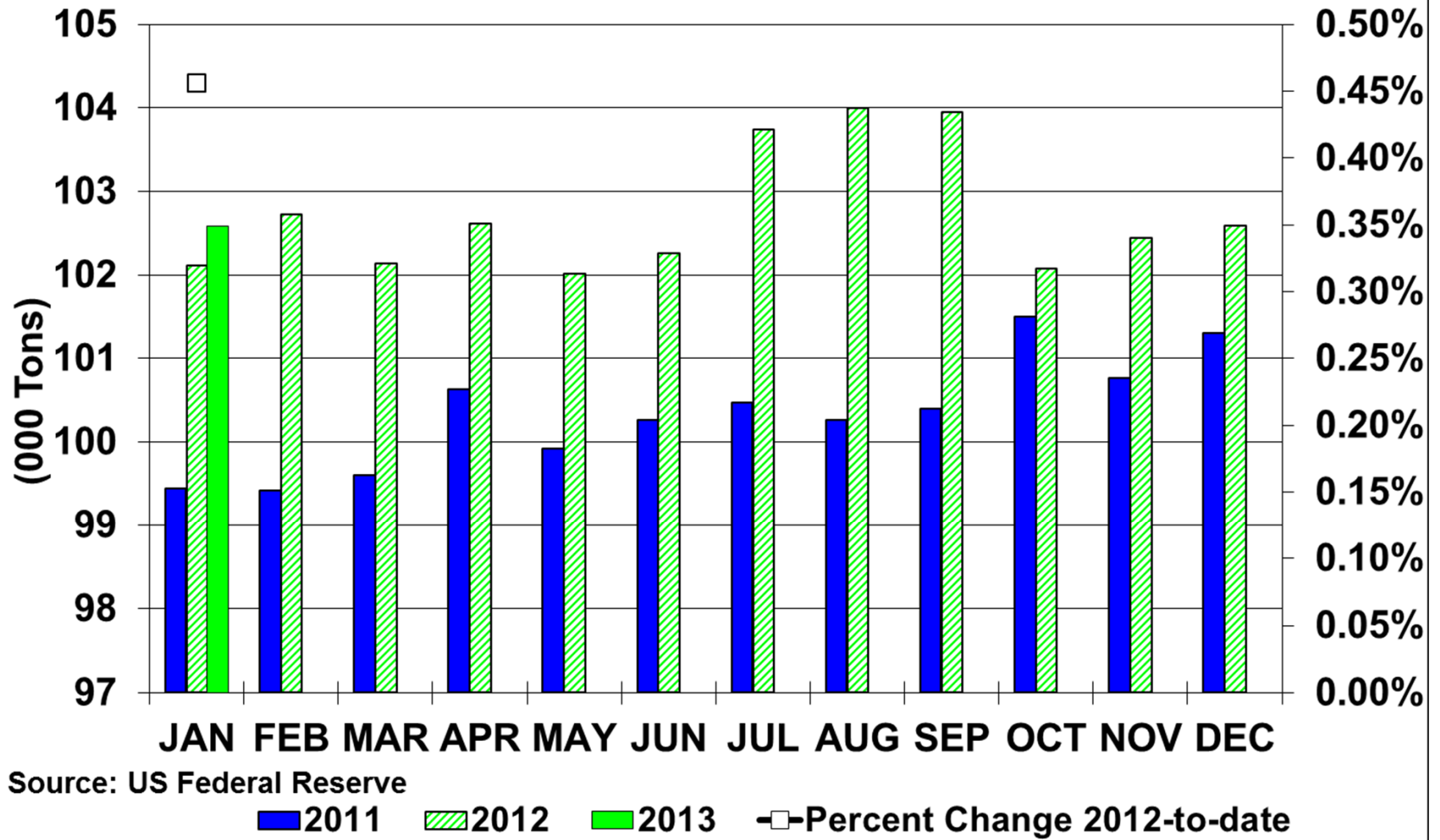
Industrial Production Nondurable Consumer Goods



Source: US Federal Reserve

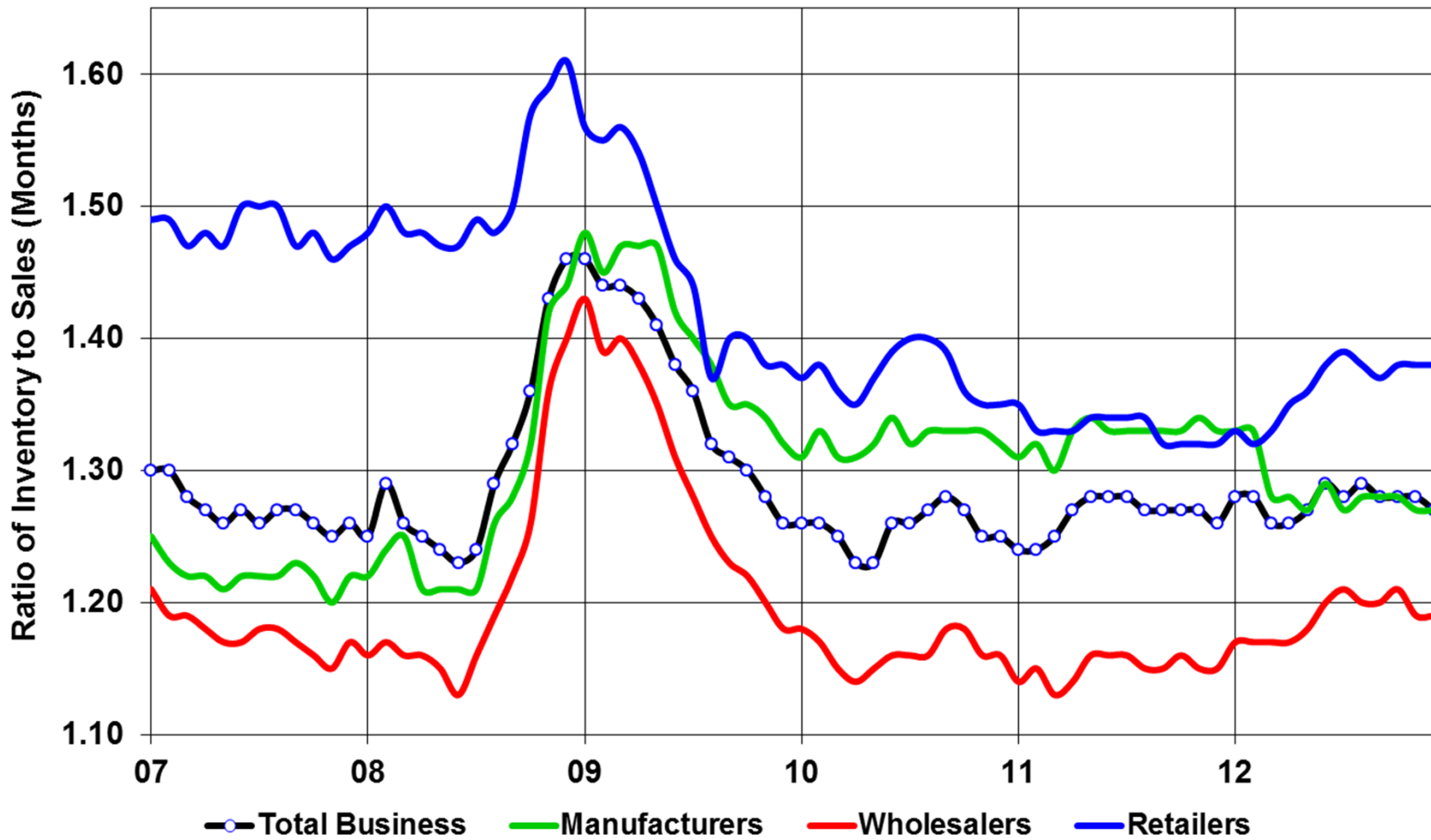
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US Industrial Production: Food



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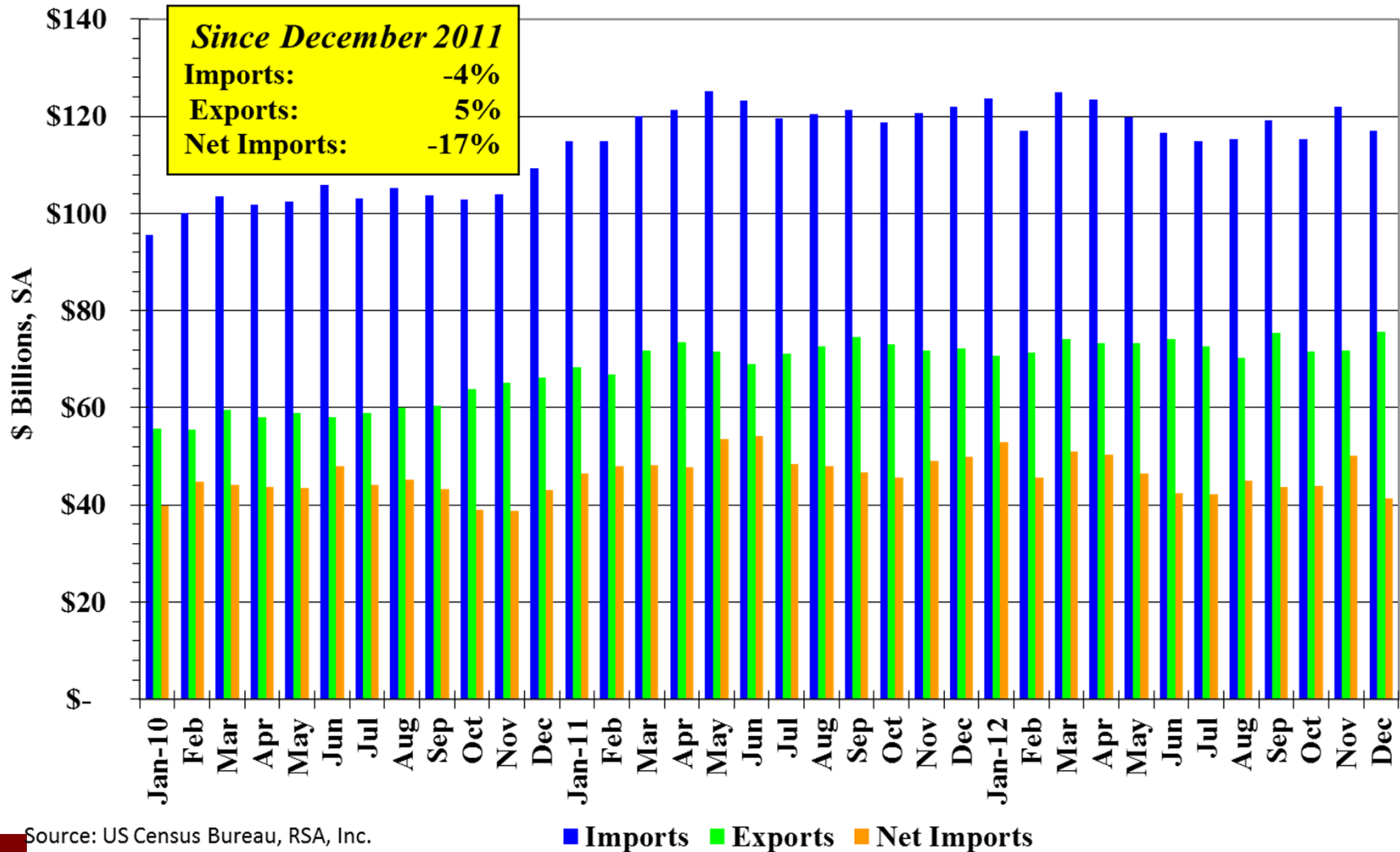
Inventory/Sales Ratios



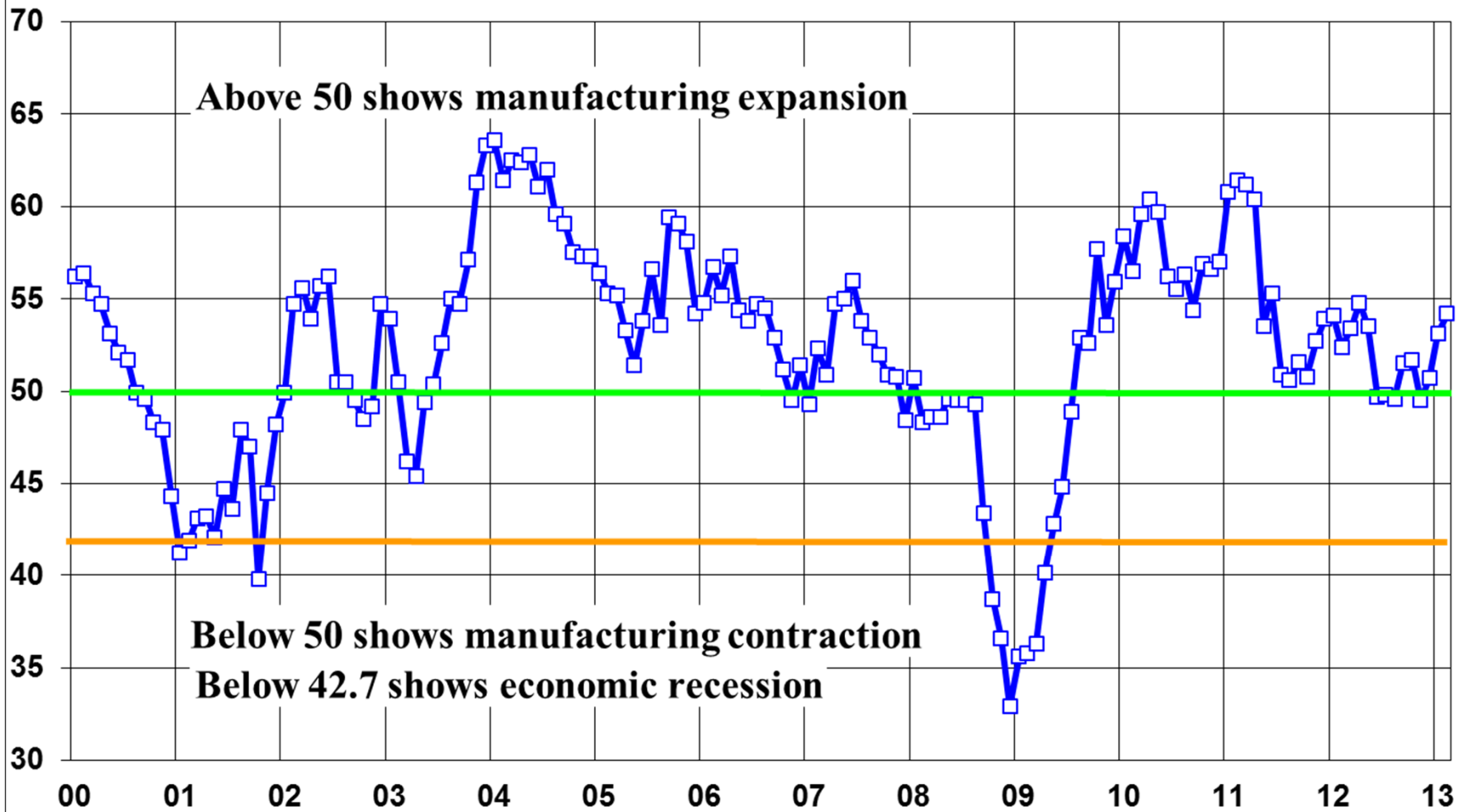
Source: US Census Bureau

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US Nondurable Goods Trade Deficit



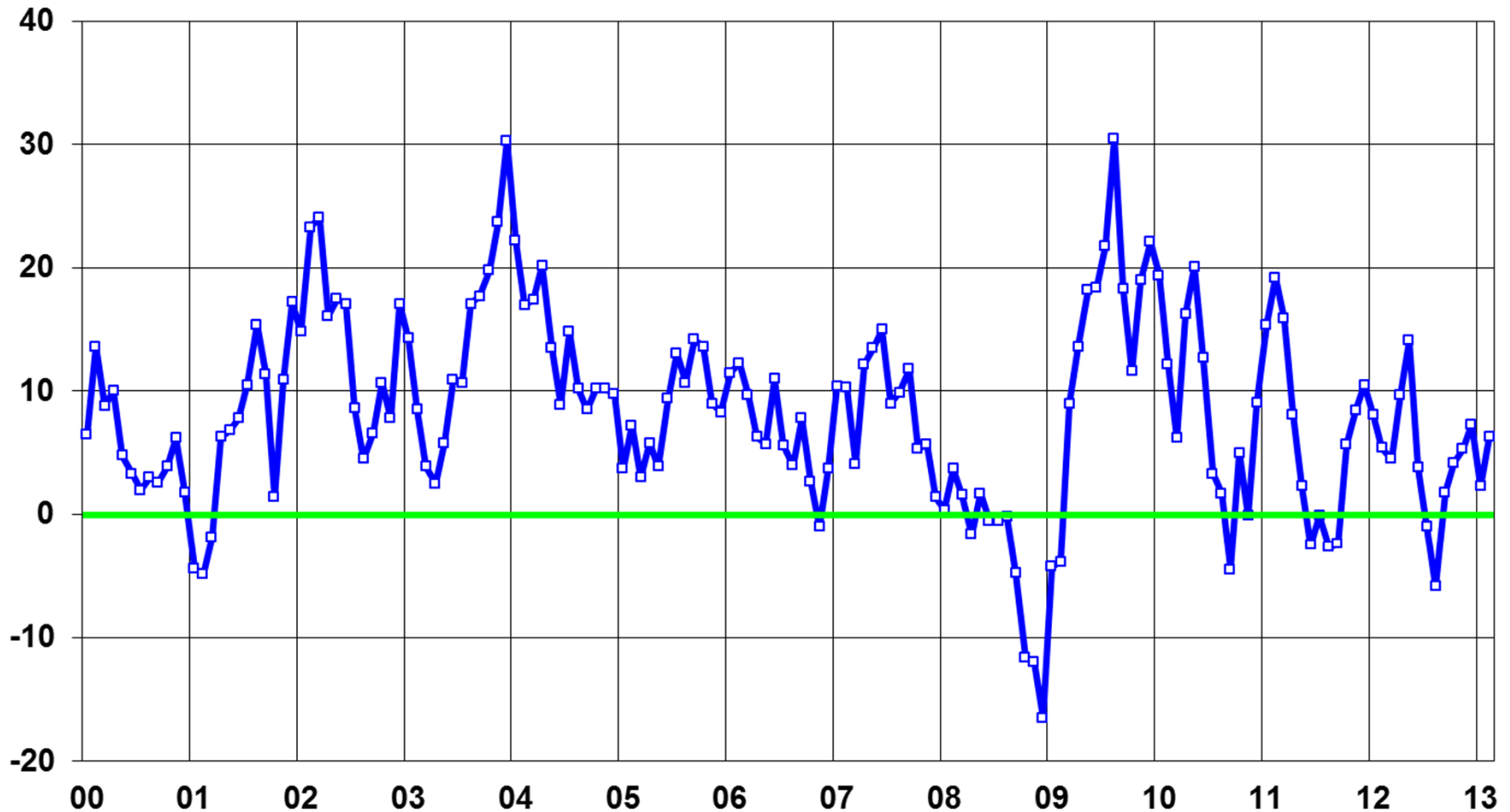
Purchasing Managers' Index



Source: Institute for Supply Management



New Orders - Inventories: Proxy for Future Production

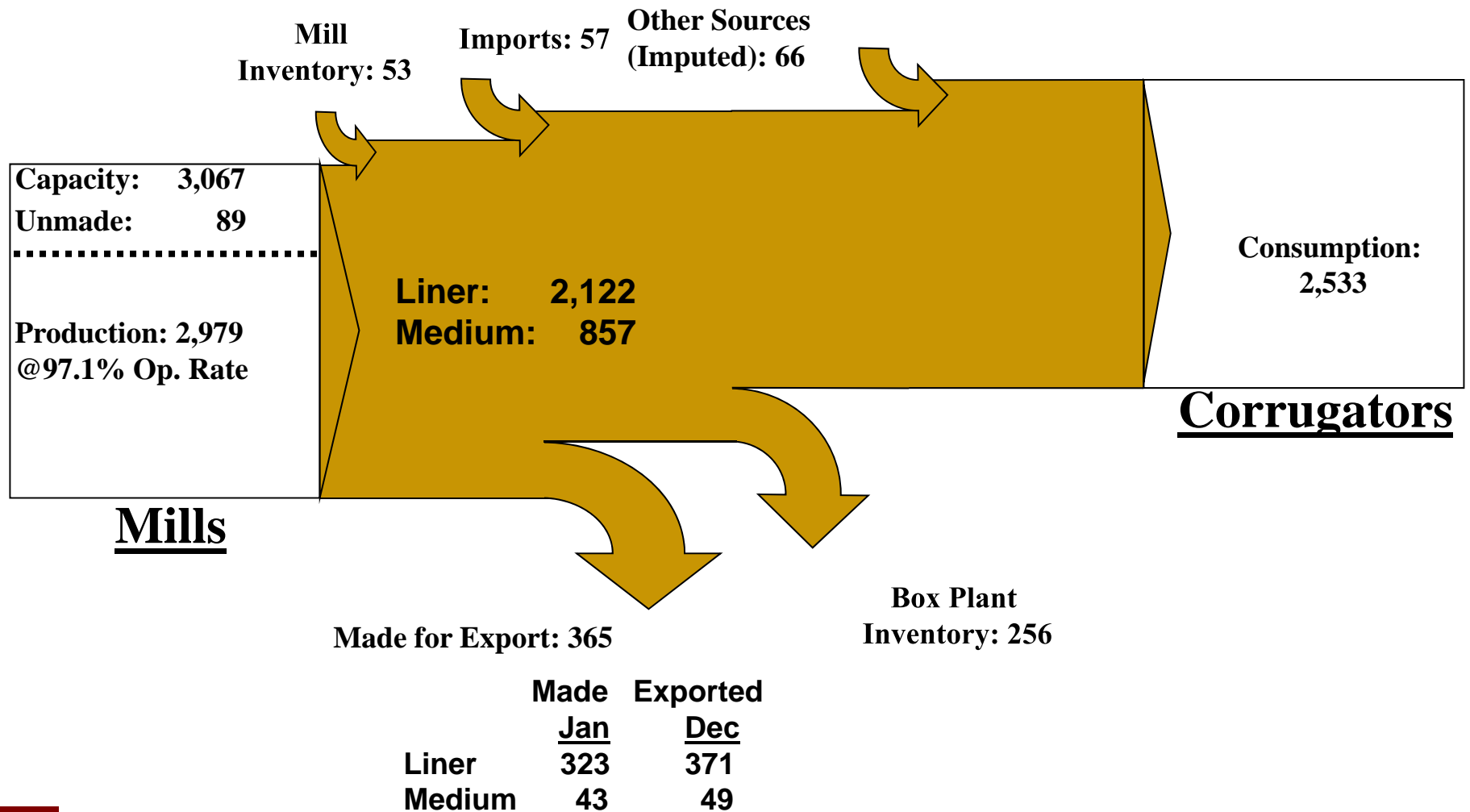


Source: Institute For Supply Management, RSA

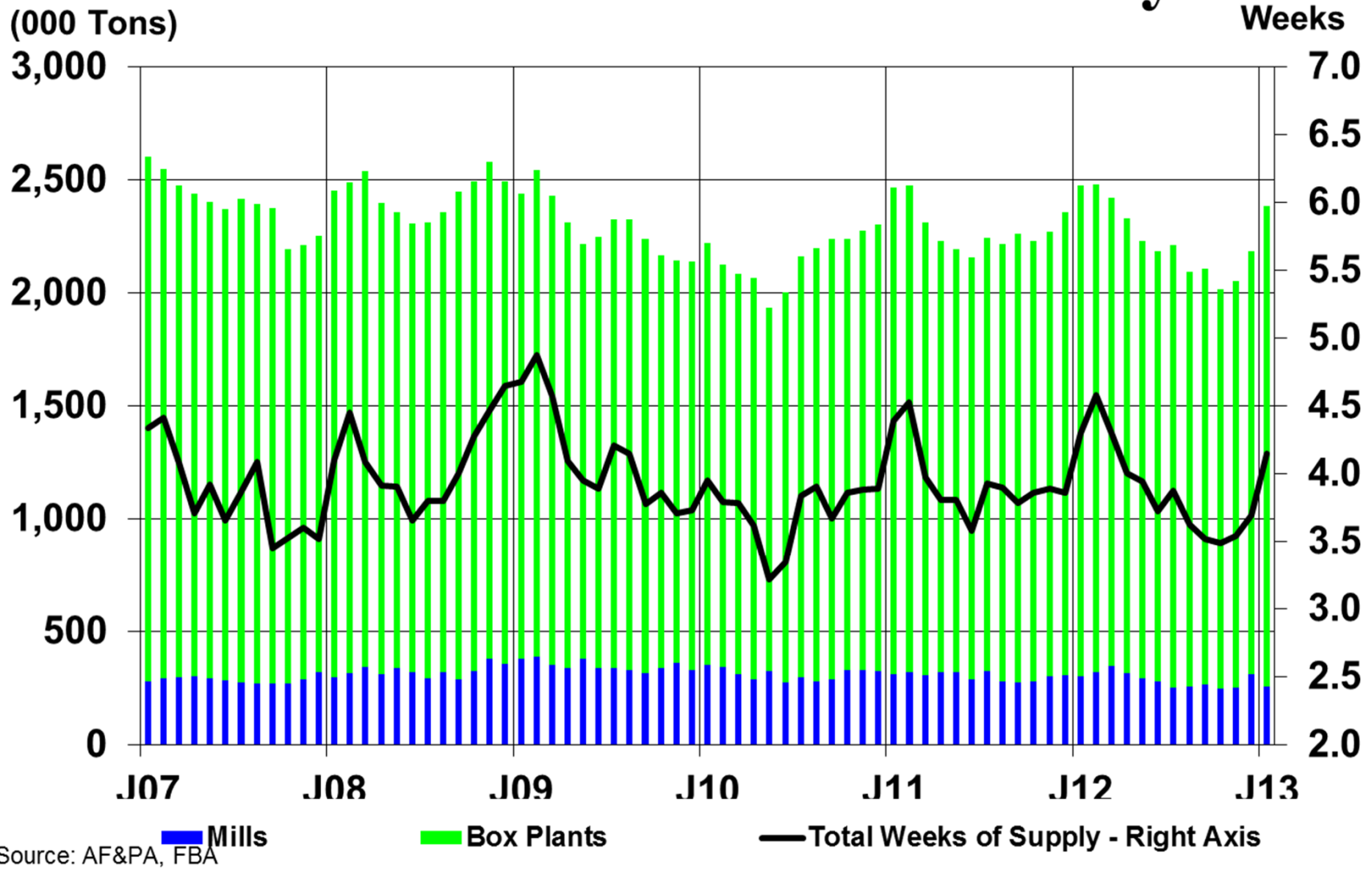


Containerboard Flows – January 2013

(000 Tons)



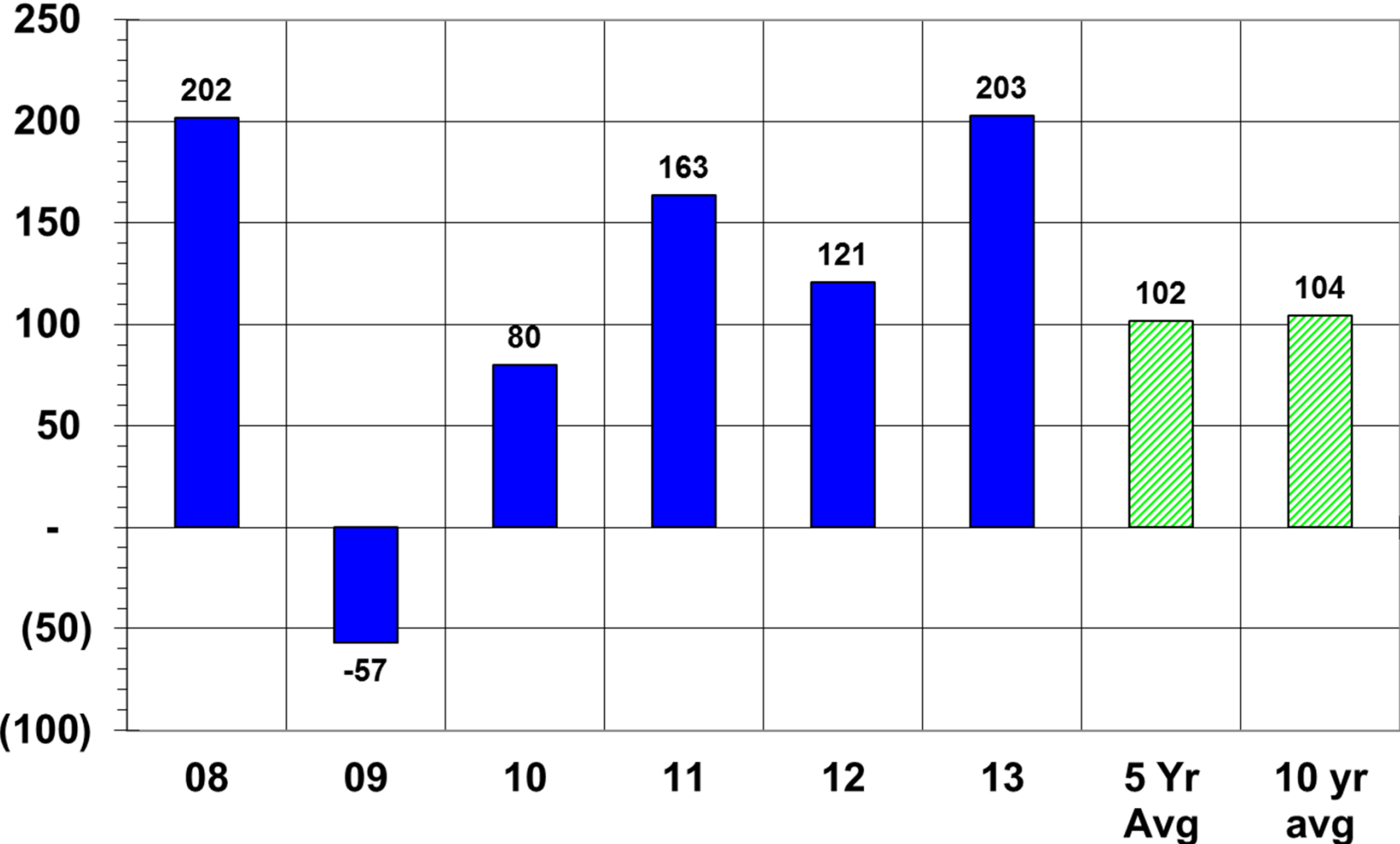
US Containerboard Inventory



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January Box Plant & Mill Containerboard Inventory Changes

000 Tons



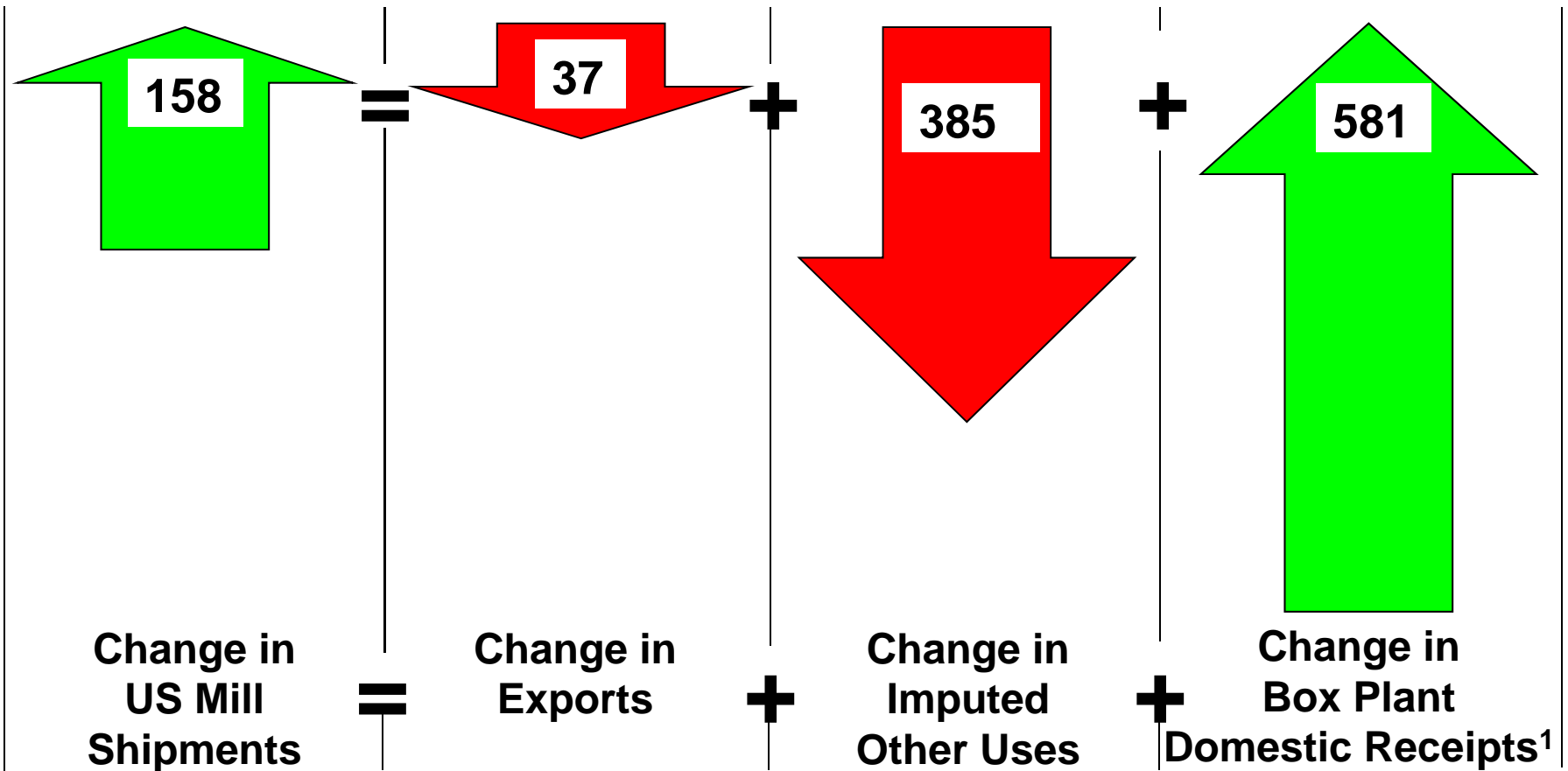
Source: AF&PA, FBA



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Monthly Change in Containerboard Flows December 2012 → January 2013

(000 Short Tons)



¹ Box Plant Domestic Receipts = Corrugator Consumption + Inventory Accumulation - Imports

Source: RSA, Inc.

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THANK YOU

- ✓ Thank you for the opportunity to participate!
- ✓ What are your questions and feedback?

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