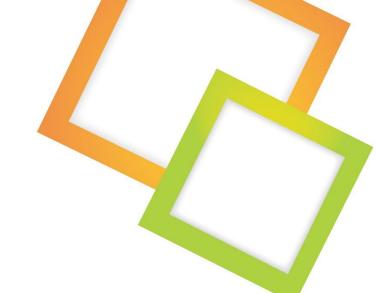
FISHER WEBINARS





Katie Mencke Senior Consultant Fisher International

Business Cycles Questions Executives Need to Ask

Originally presented on September 26, 2019



Fisher International

Fisher International is an information services and management consulting firm offering pulp and paper businesses better performance through the strategic use of business intelligence.

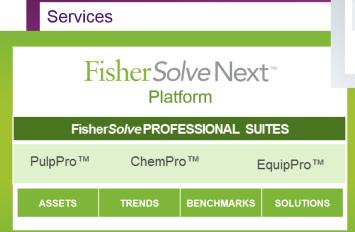


What We Believe

Every Company Should Have the Best Possible Business Intelligence.

Our Vision

To enable pulp and paper businesses worldwide to make informed decisions precisely, fast, broadly, and efficiently.





Consulting

We Help Clients Make Significant and Enduring Improvements to Their Performance

THE industry leader in strategic data-informed decision making



Integrated solutions that increase our customers' decision making



Industry creator of high-quality data



Deep domain knowledge promoted via **Thought Leadership**



Best-in-class digital product development and product innovation



Expert consulting, coaching and training from industry leaders



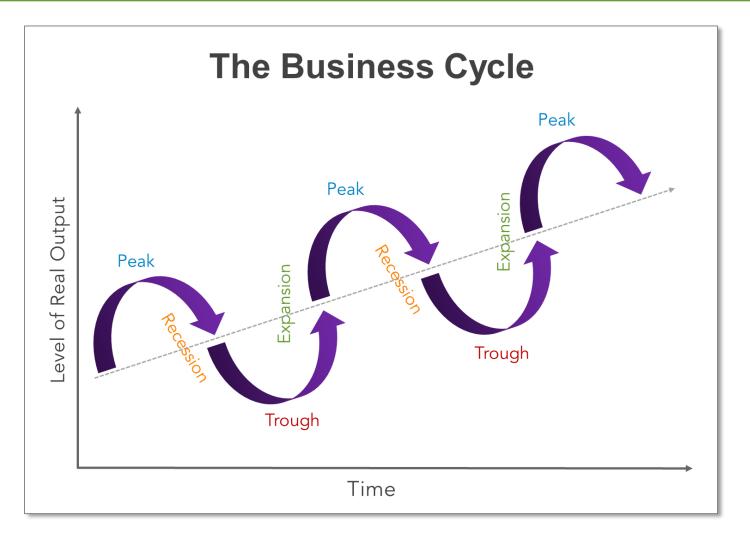


What Questions Do Executives Need to Ask About Business Cycles?





What Questions Do Executives Need to Ask About Business Cycles?





Business Cycles De-mystified

Cycles – driven by supply, demand, and industry behavior

- Various lengths and cyclicality
 - Annual, seasonal trends
 - Slower supply and demand responses
- Short-term cycle: Tissue Trade-Derived Pricing
 - Not great for long-term strategic planning
 - Necessary for managing for cashflow in a sector with volatile pricing
- Medium-term cycle: Containerboard Capacity Planning
 - Capacity investments lag boom periods
- Systems Dynamic Modelling
 - Cycles, though complex, can be predicted to maximize profitability



....But Cycles Aren't the Only Things That Affect Industry Change

Structural Change – often driven by megatrends and disruptors

- Global trend: Increasing environmental and sustainability concerns
 - Anti-plastics
- Regional trend: Labor health and safety in Latin America
 - Cement sack weight limit
- Mega-disruptors: China crack-down on pollution and waste
 - RCP import restrictions
 - Ripple effects

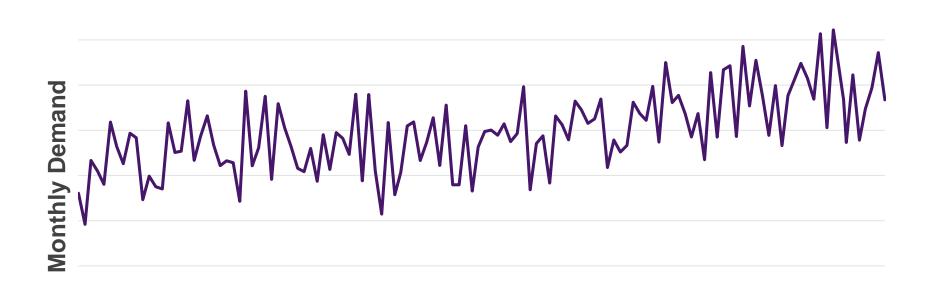




Business Cycles

What Is a Business Cycle Anyway?

Illustrative Paper Grade Trends and Cycles



10 years period



What Is a Business Cycle Anyway?

Illustrative Paper Grade Trends and Cycles

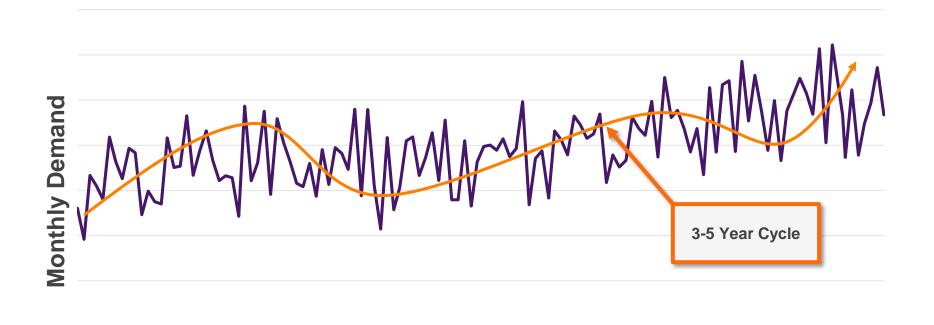


10 years period



What Is a Business Cycle Anyway?

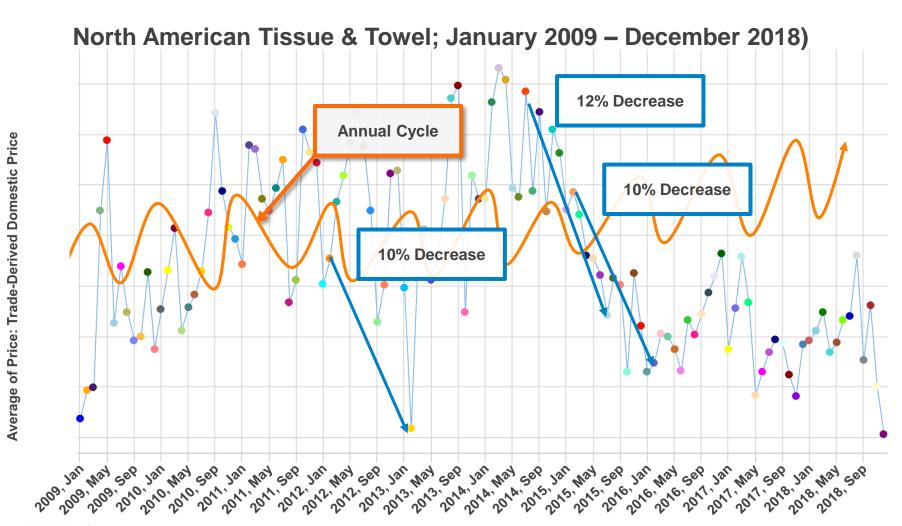
Illustrative Paper Grade Trends and Cycles



10 years period



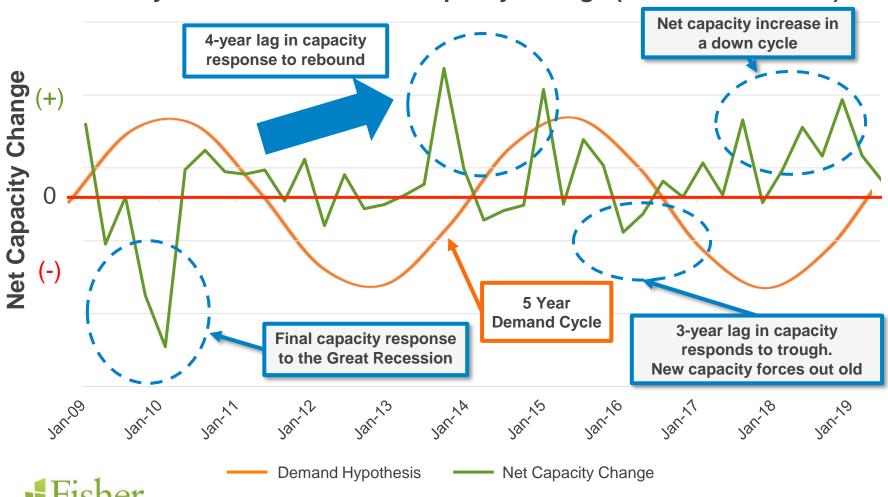
Do I Have Enough Cash to Weather the Seasons?



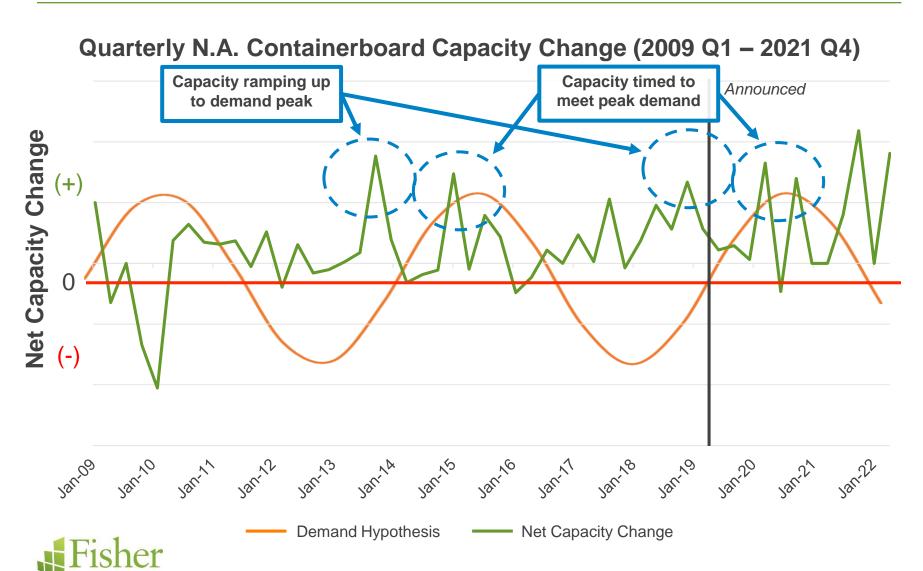


How Does My Industry Capacity Respond?

Quarterly N.A. Containerboard Capacity Change (2009 Q1 – 2019 Q2)

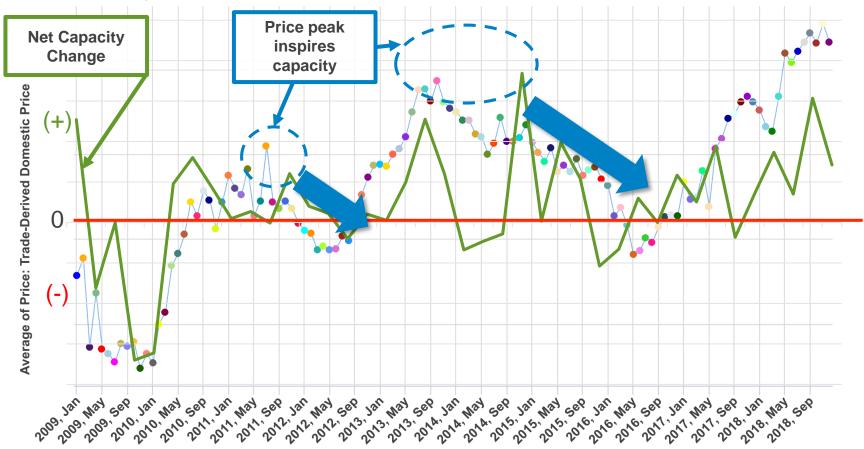


When Should I Plan My Capacity Addition to Start-Up?



What's the Best Strategy to Maximize Profitability?

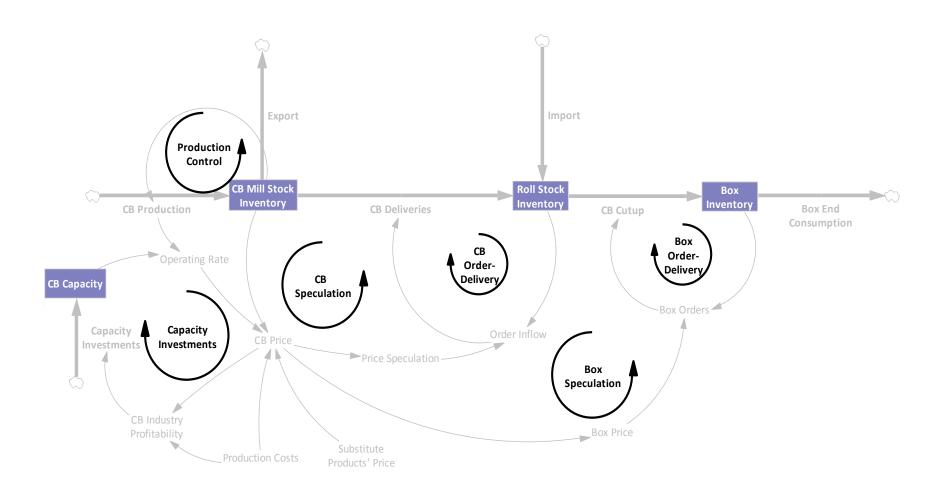
Monthly N.A. Trade – Derived Containerboard Price (2009 – 2018)





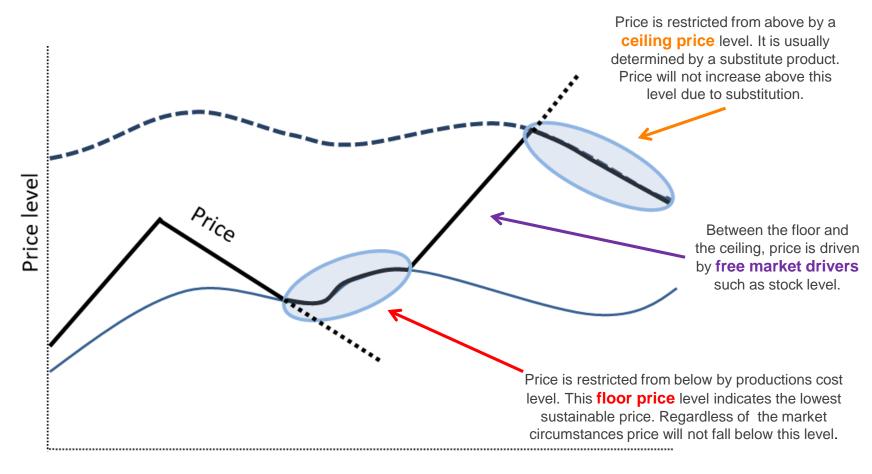
Net Capacity Change

How Does Capacity Expansion Drive Price, and How Does Price Drive Capacity Expansion?





What Is Setting the Limitations on Price in my Segment?







Throw Away Your Crystal Ball and Use the Right Forecast Model

The Fisher-STE approach is accurate because it simulates the market.

Requirement:

 Mathematical modeling of the feedback loops that make markets complex – this is why our forecasts work

Results:

- Predicts turning points in price cycles many months out with remarkable accuracy.
- 2. Explains the "why" of price movements in ways industry professionals find useful.
- Allows for sensitivity analysis on marketplaces' key influences and "what-if?" testing of companies' strategic plans.





Structural Change

Is More Anti-Plastics Legislation on the Horizon?



When Will Alternative Products Become Common Place?



Fiber-based food tray



MULTIVAC's fiber-based board + 90% renewable skin pack for meat packaging



MillerCoors testing fiber-based six-pack rings

100% paper cocoa pouch



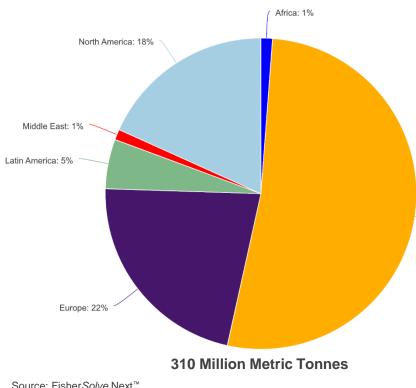




*Scale, substitution intensity and direction only illustrative

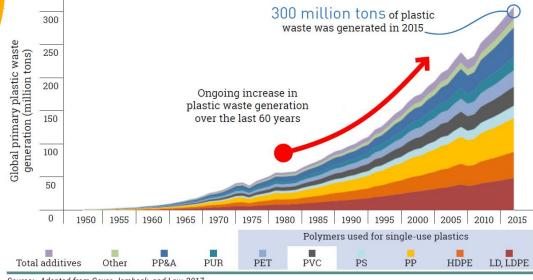
How Much Could the Anti-Plastics Movement Move the Industry?

Global Packaging Paper Production



Source: Fisher Solve Next™

Annual plastic waste generation and disposal



Source: Adapted from Geyer, Jambeck, and Law, 2017



Will the Restrictions on Cement Sack Weight Continue in Latin America?



Peru: "25 Kilos... No More!" – Workers demand reduced weight of cement bags before the Pan American Games in Lima 2019

"The initiative of FTCCP joins and strengthens other existing campaign initiatives in countries such as Argentina, Brazil, Chile, Cuba, Colombia, Panama and others, at different levels of progress", confirmed the BWI Regional Representative for Latin America and the Caribbean, Nilton Freitas.

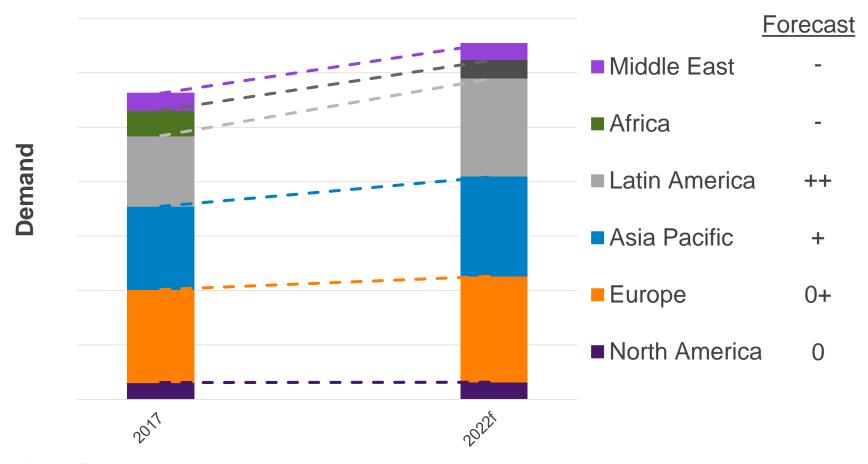
Brazil: The Public Labour Ministry has signed an agreement with producers to reduce the standard weight of cement sacks sold locally to 25kg from 50kg. 33 cement producers, the local competition authority (CADE), the national cement industry union (SNIC), the Brazilian Portland Cement Association (ABCP) and Labour minister Ronalo Fleury all signed the arrangement, according to Surgiu. The agreement has been planned to reduce workplace accidents involving cement despatches.

The agreement establishes a deadline of 31 December 2028 for companies to adapt to the new standard, after which period only cement specifically for export can be over the 25kg limit, with all other sacks over 25kg to cease being sold from 1 January 2029. The agreement follows four years of negotiations.



How Much Could This Weight Reduction Impact the Sack Paper Market?

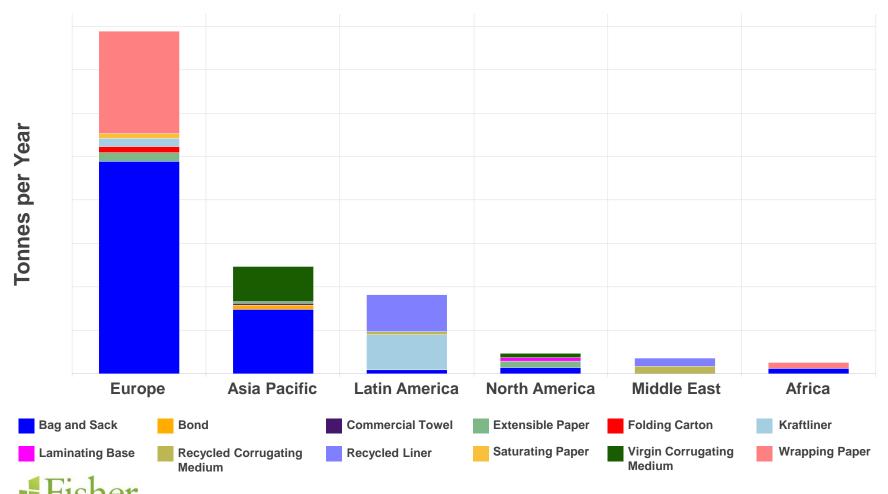
Global Extensible Sack Paper Demand by Region





Where Will the Additional Extensible Sack Paper Come From?

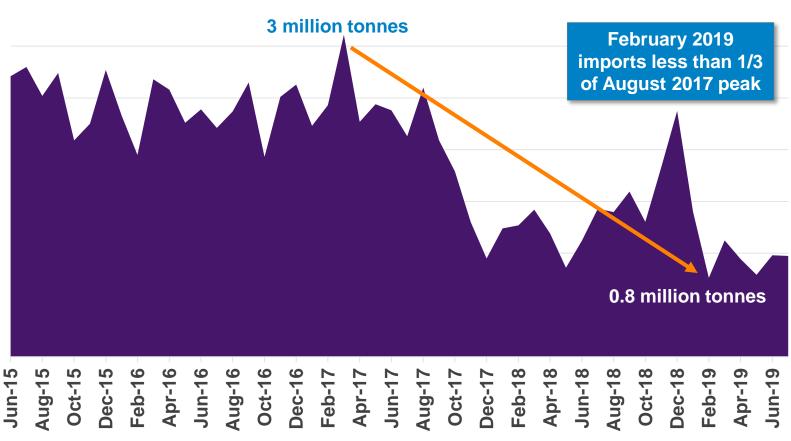
Additional Grades Produced on Extensible Sack Paper Machines



Tonnes

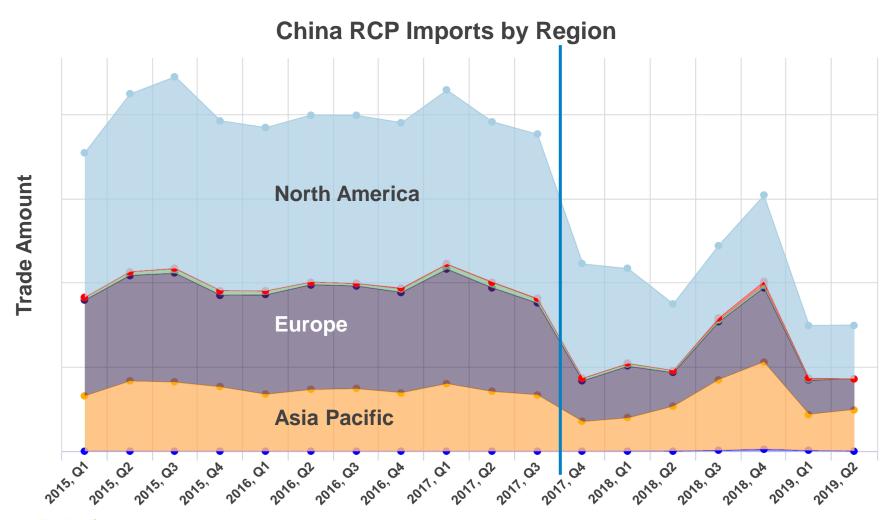
How Low Will Chinese Imports Go?

Chinese Imports of Recovered Paper





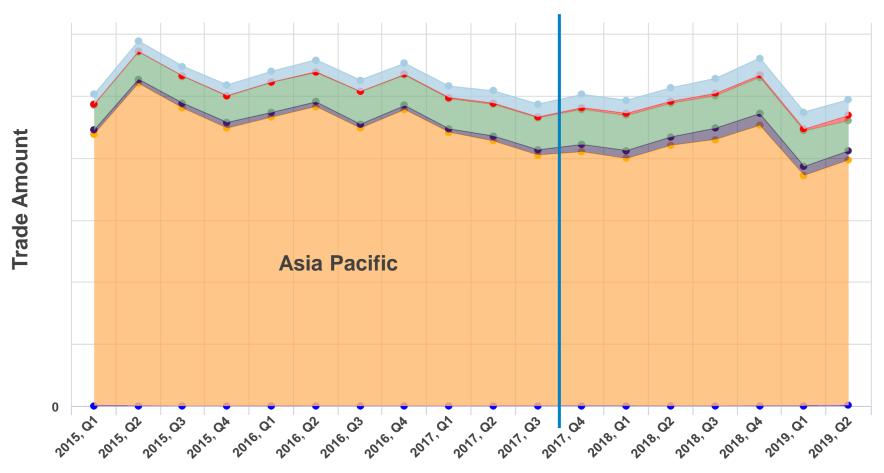
Who Has Been Most Affected by China's Import Restrictions?





What Happened to U.S. Exports?

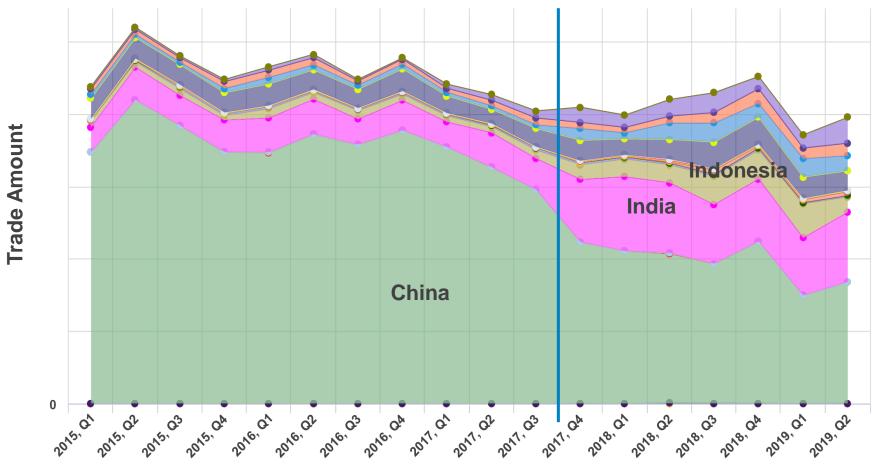






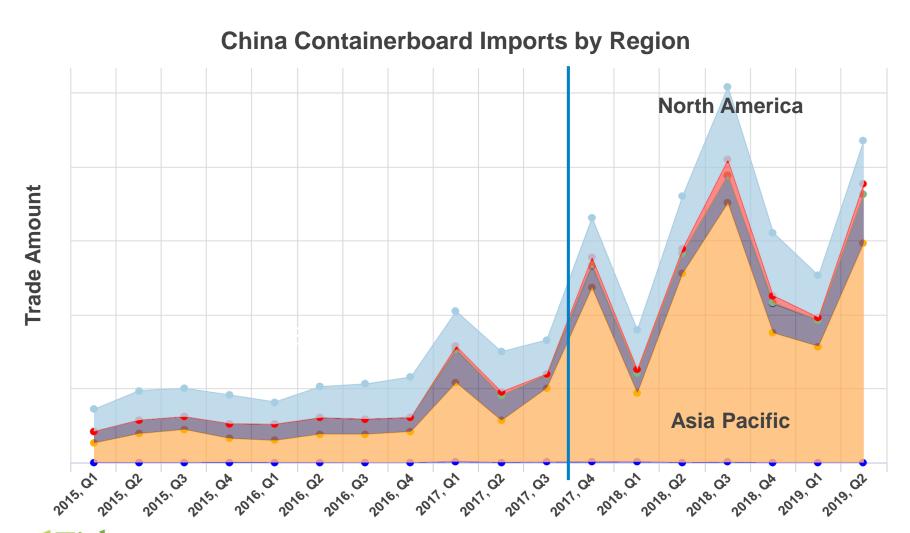
What Happened to U.S. Exports?

USA RCP Export to Asia Pacific by Country





How Are China's Containerboard Needs Being Met?





Drivers Can Influence Structural Change at Many Rates...





How well can you predict your next cycle?

Business cycles don't have to be a mystery

The impacts of structural change drivers don't have to be a surprise

Both can be predicted and turned to your advantage by using sound business intelligence and strategic insight







BETTER INTELLIGENCE. BETTER DECISIONS.

Fisher International is an information services and management consulting firm offering pulp and paper businesses better performance through the strategic use of business intelligence.

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All others, contact sales@fisheri.com for information regarding access to this proprietary insight.

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