



“This time it’s different”

Changes in global pulp markets

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We're going to talk about...

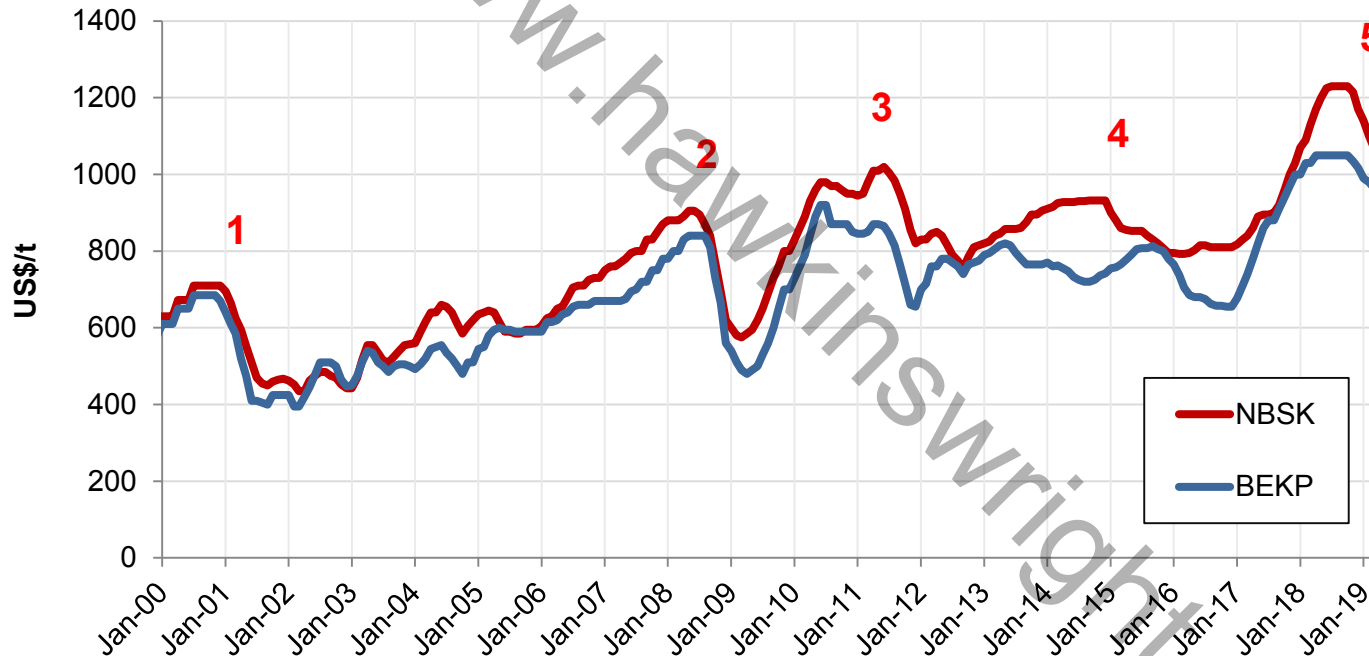


- Cycles, and how this one is different
 - Marginal cost reversion
 - Producer stocks
 - Consolidation
- Demand drivers
 - China's one-off price-inventory cycle
 - Price sensitivity of pulp and paper demand
 - National Sword
- The big picture is shifting
 - Integrated vs non-integrated paper production
 - Macro-economic headwinds
 - Fibre is king

No cycle is the same, but we can learn from history



Benchmark pulp prices, CIF West Europe

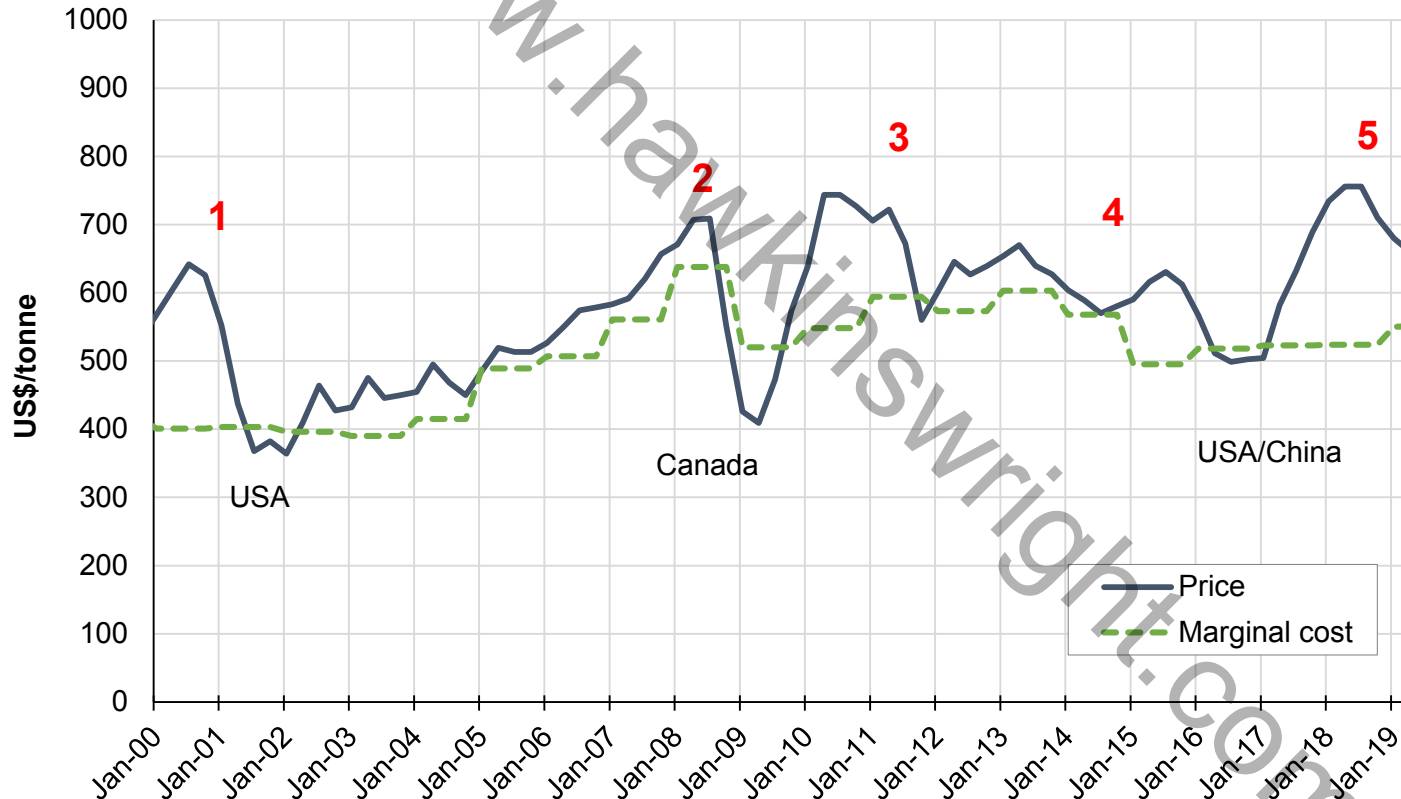


- These price cycles have ensured that the supply-demand ratio is restored to 91-92% over time
- In short-term, prices are driven by inventory movements and expectations
- Prices invariably over-shoots in both directions

And yet prices remain ~\$100/t higher than marginal cost



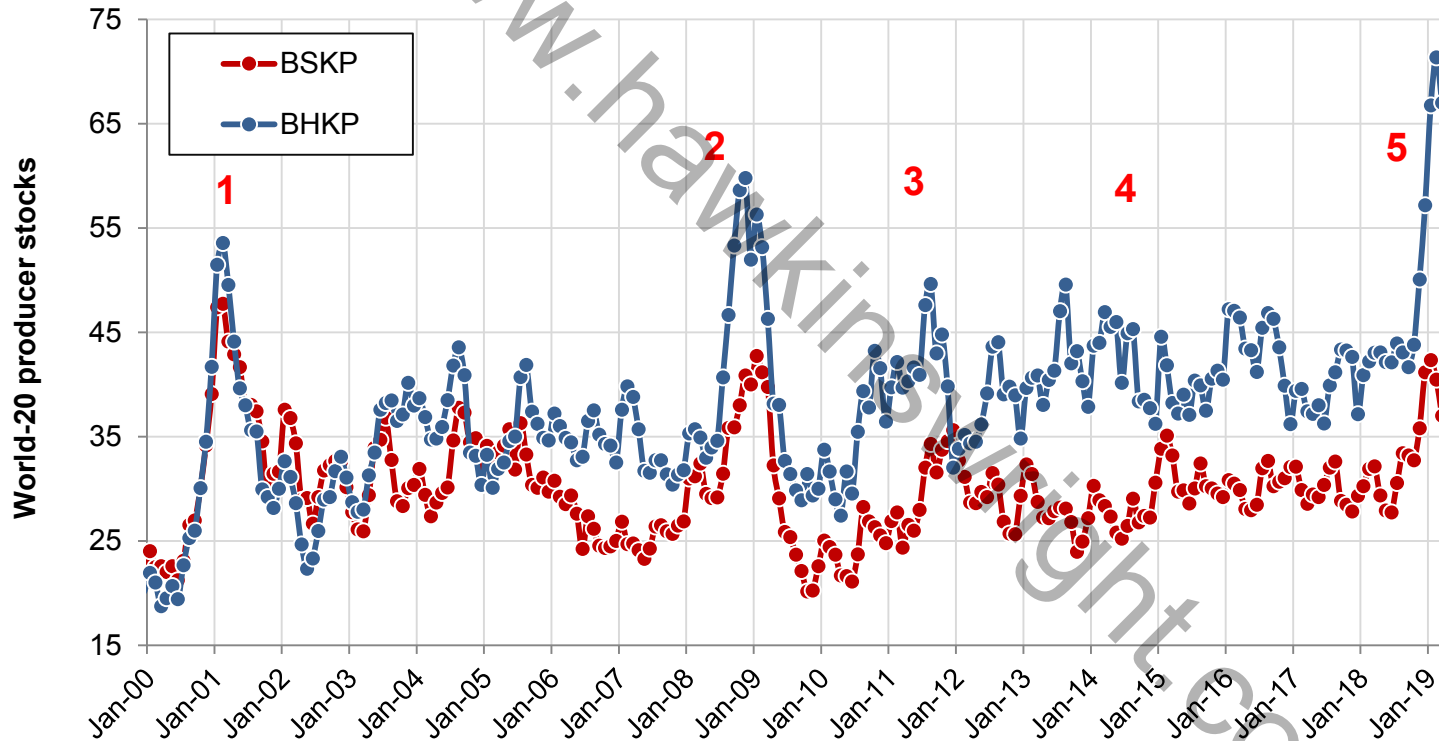
BHKP net price v marginal cost



W-20 producer stocks increased by ~1.8Mt since June 2018



World-20 Producer inventories, days of supply

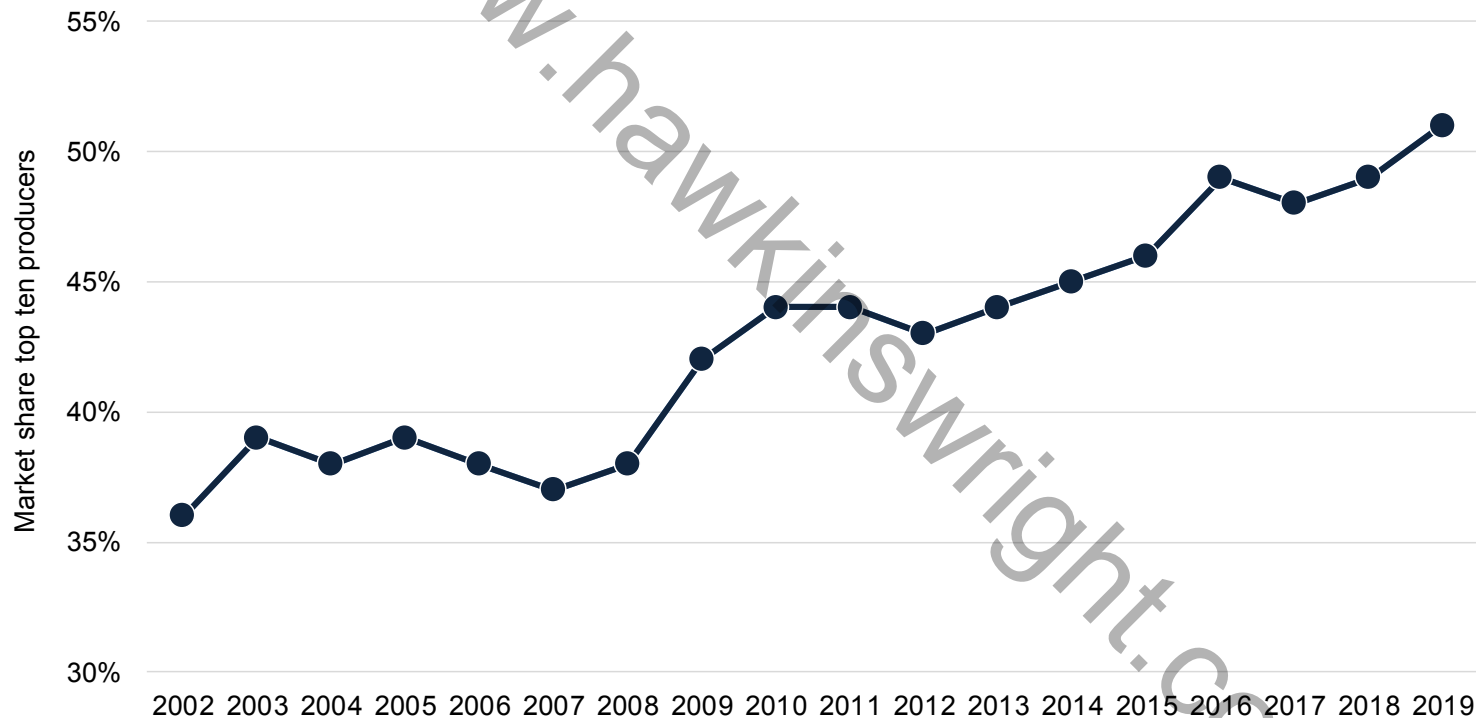


Source: PPPC

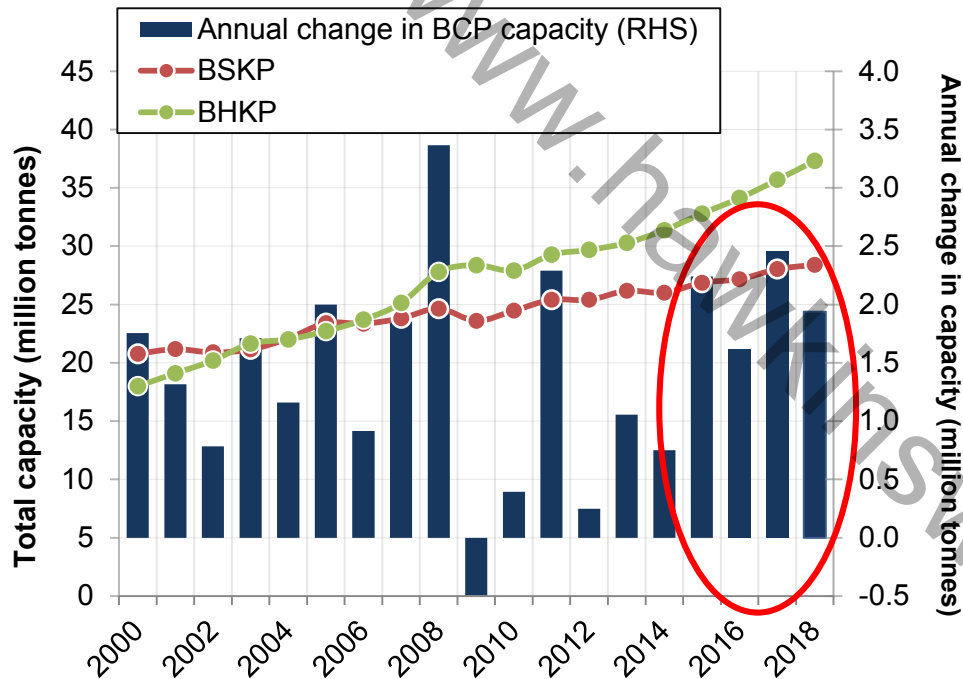
Consolidation is playing a major role...



Market share of the top ten market pulp producers (BCP, UKP and BCTMP combined)



But supply glut is arguably more important...



Record capacity growth 2015-2018 finally reaches its potential:

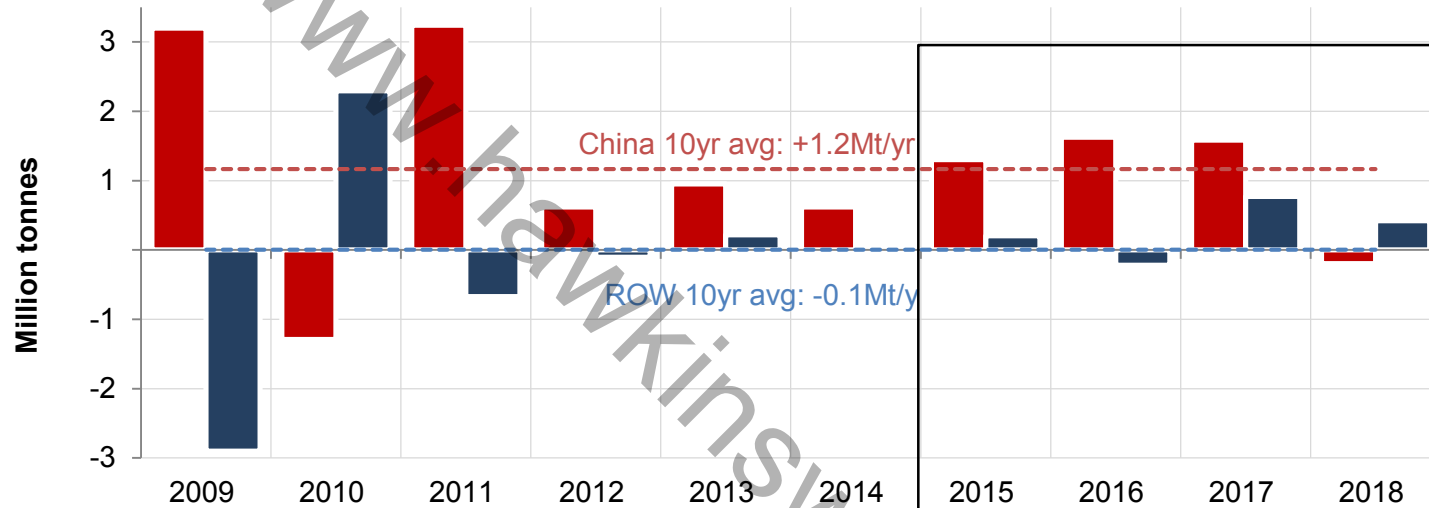
- Hardwood supply growth from Tres Lagoas II, APP OKI, Guaiba recovers, other incremental
- Softwood from SCA Ostrand, Metsa Anekoski, Sodra Varo, and even Svetlogorsk starts to ramp up, other incremental (e.g. Skutskar, Steti)
- Less maintenance

- And production “normalised”, with no strike, no boiler problems, fires, extreme weather, or excessive maintenance...

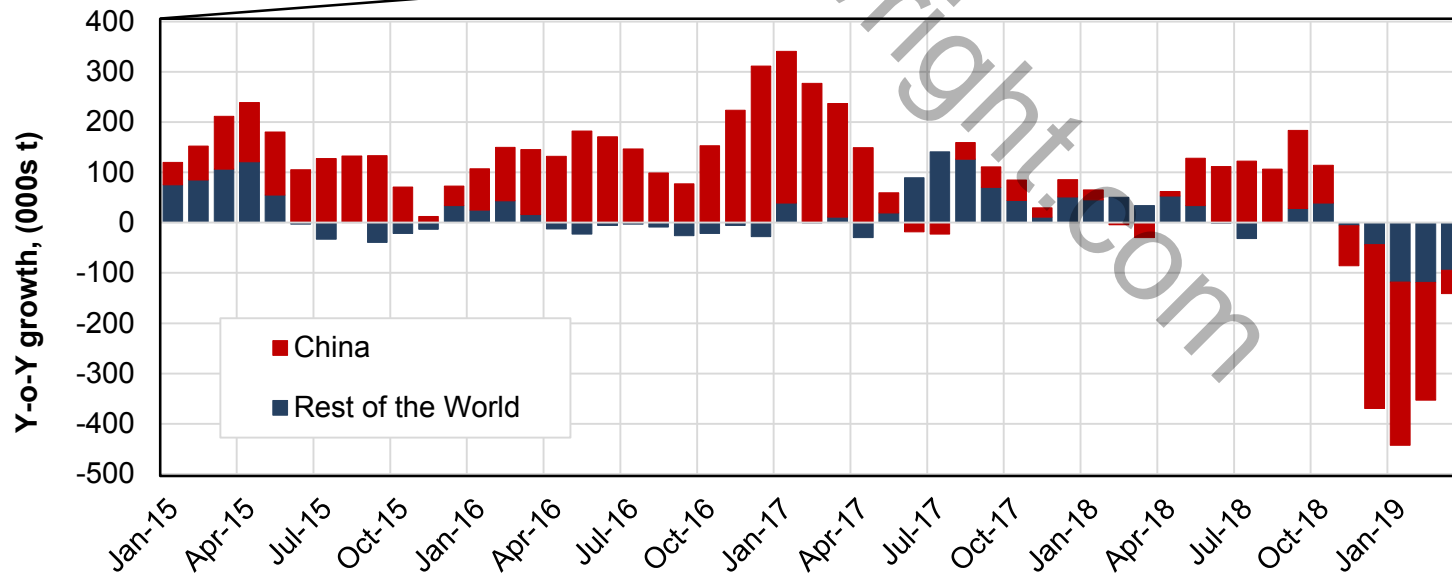
...while price-sensitivity of pulp (and paper!) demand is being put to the test!



Total BCP demand



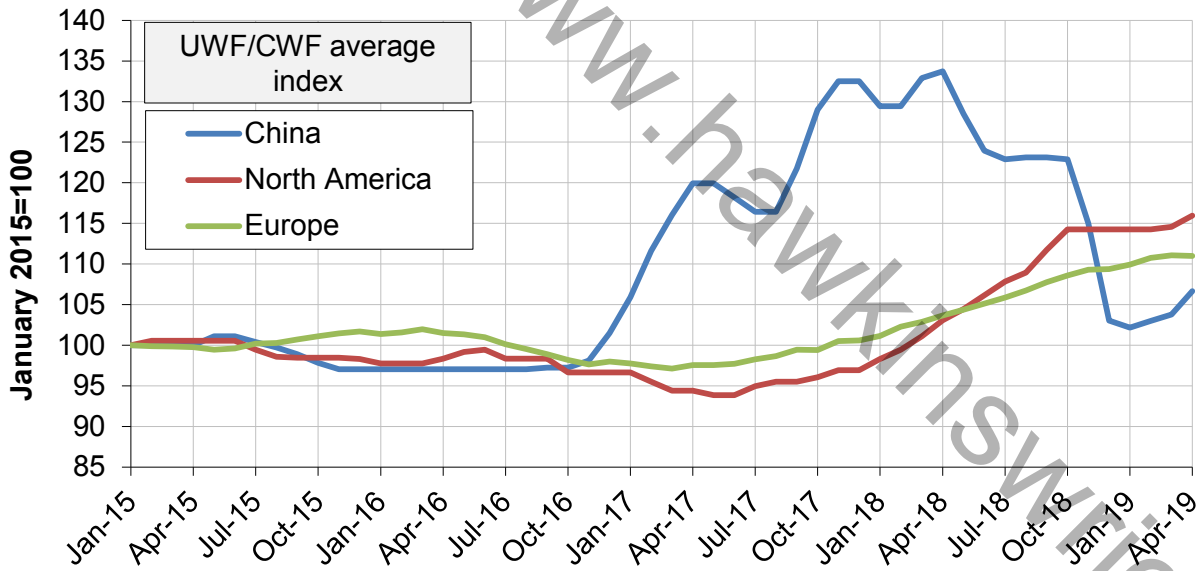
World-20 sample



Testing the price sensitivity of paper demand?



CWF and UWF paper prices, as an Index (Jan-15 = 100)



Price inflation leads to re-stocking....leads to strong paper demand and production, leads to strong pulp demand

Chinese P&B producers hoped that a high pulp price would support paper prices, but ultimately paper price relates to supply and demand, not pulp price

European converting margin: CWF



UWF



Paper demand has fallen sharply due to price sensitivity of paper demand and slowing economy.

Q1 2019 figures show

	<u>P&W (del)</u>	<u>Tissue (prod)</u>
NA	-13%	-1%
Europe	-7%	-3%

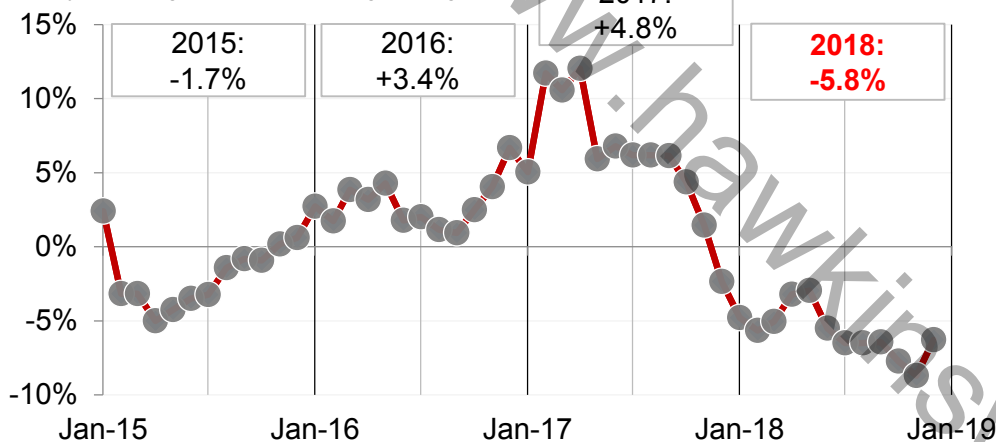
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Combined impact of National Sword and the inventory cycle



Chinese output of machine made P&B

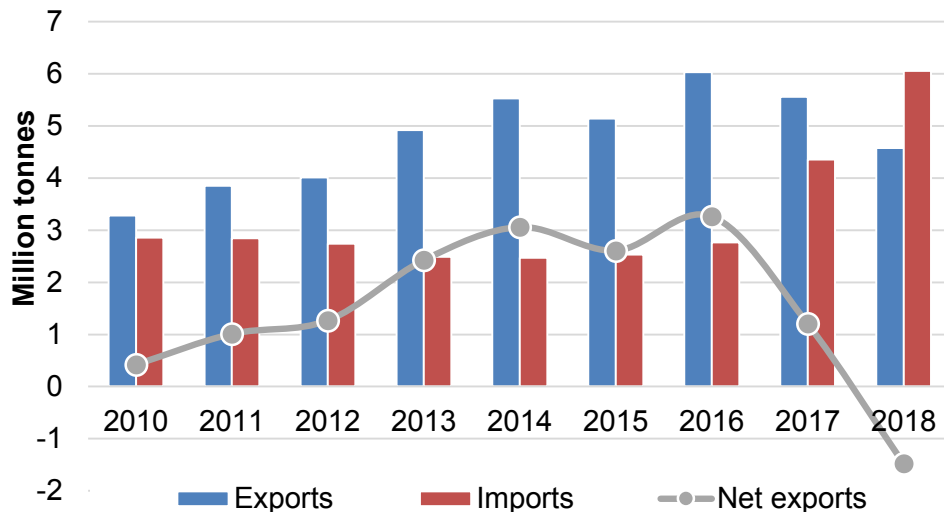
Y-o-y % change (3 month moving average)



Source: National Bureau of Stats

- P&B production falls by ~5 million tonnes in 2018

Chinese trade of unconverted P&B



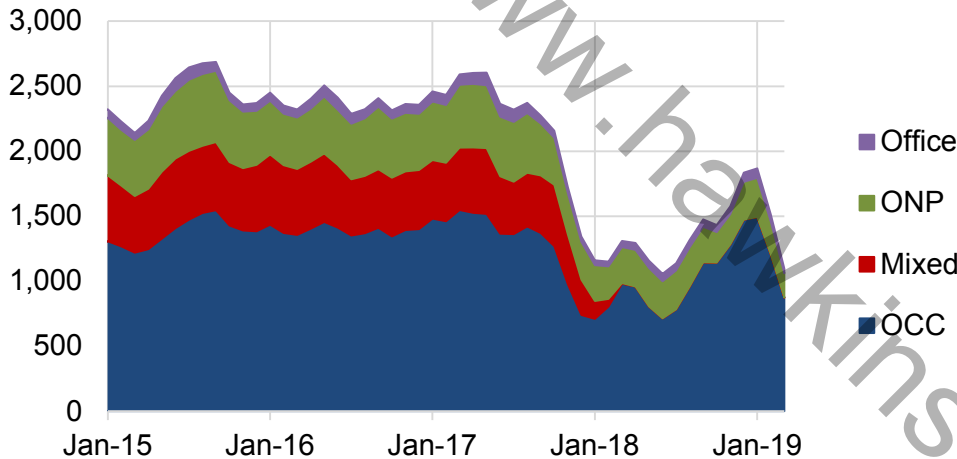
- Net exports of P&B fall by a similar amount...

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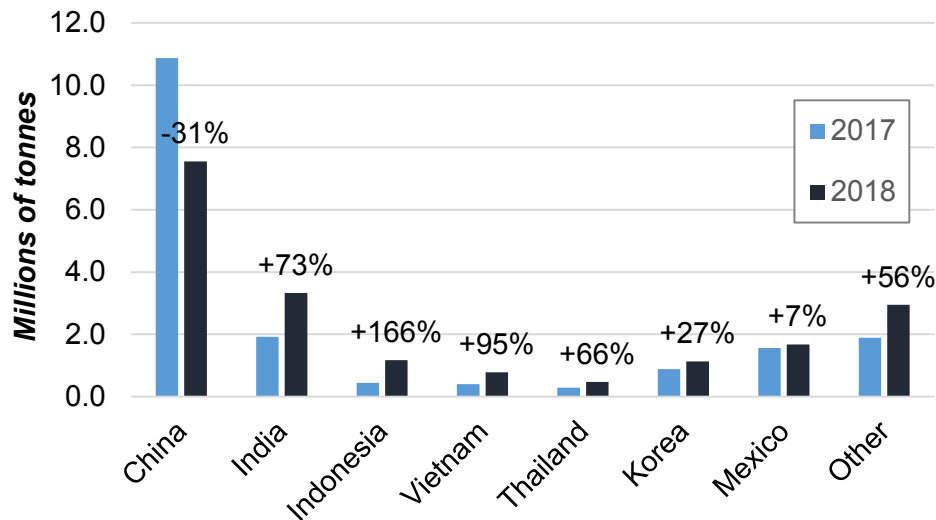
China is no longer the low-cost production base



Chinese RCF imports (3mma)



US exports of RCF (full year 2018 v 2017)



- RCF imports have fallen by 12 million tonnes
 - Total ban by 1st Jan 2021?
- Much of the RCF gas been diverted to other Asian countries (see below)
 - US exports actually increased in 2018!
 - RCF prices in USA and Europe have fallen, also promoting investment in packaging capacity
- Bottom line is that producing paper in China has become more costly! Chinese now investing in Malaysia, Vietnam, Taiwan, etc

And capital starts to move offshore too

Overseas investment from Chinese paper companies



Company	Project/Target	Location	Grade	Date
Nine Dragons	Old Town	ME, USA	BHKP	Oct-18
Paper Excellence	Crofton, Alberni, Powell River	Vancouver, Can	NBSK	Oct-18
Nine Dragons	Fairmont	WV, USA	DIP	Aug-18
Cheng Loong	New PM	Vietnam	Linerboard	Oct-18
Shanying	Wickliffe	KY, USA	kraft pulp, packaging	Aug-18
Shanying	WPT	Netherlands	RCP	Jul-18
RGE/APRIL	Lwarcel	SP, Brazil	BEKP	Jun-18
APRIL	MNI	Malaysia	Newsprint	Jun-18
Nine Dragons	Rumford	WI, USA	kraft pulp, paper	May-18
Nine Dragons	Biron	ME, USA	fine paper	May-18
Hengan	Greenfield, Finnpulp	Kuopio, Finland	kraft pulp	May-18
Shanying/CAMC/Silvi	Brownfield, Boreal Bioref	Kemijarvi, Finland	Bio-refinery	Apr-18
Sun Paper	Greenfield	Laos	BHKP/DWP	Mar-18
Paper Excellence	Eldorado	MGS, Brazil	BEKP	Sep-17
Nine Dragons	New PMs	Vietnam	Linerboard	Aug-17
Shanying	Nordic Paper	Sweden, Norway	Packaging	Jul-17
Lee & Man	New PM	Vietnam	Linerboard	Mar-17
Sun Paper	Greenfield	AR, USA	fluff/DP/Liner?	Apr-16
Tranlin	Greenfield	VA, USA	Straw	Jun-14

- Long Chen has cancelled some expansions in China
- Non-Chinese companies also investing heavily in renewable packaging through machine conversions (Stora Enso, Sappi, Metsa Board, Burgo, APP Indonesia) and new machines (Klabin, Ilim, West Rock)
- These will be integrated with pulp or recovered fibre

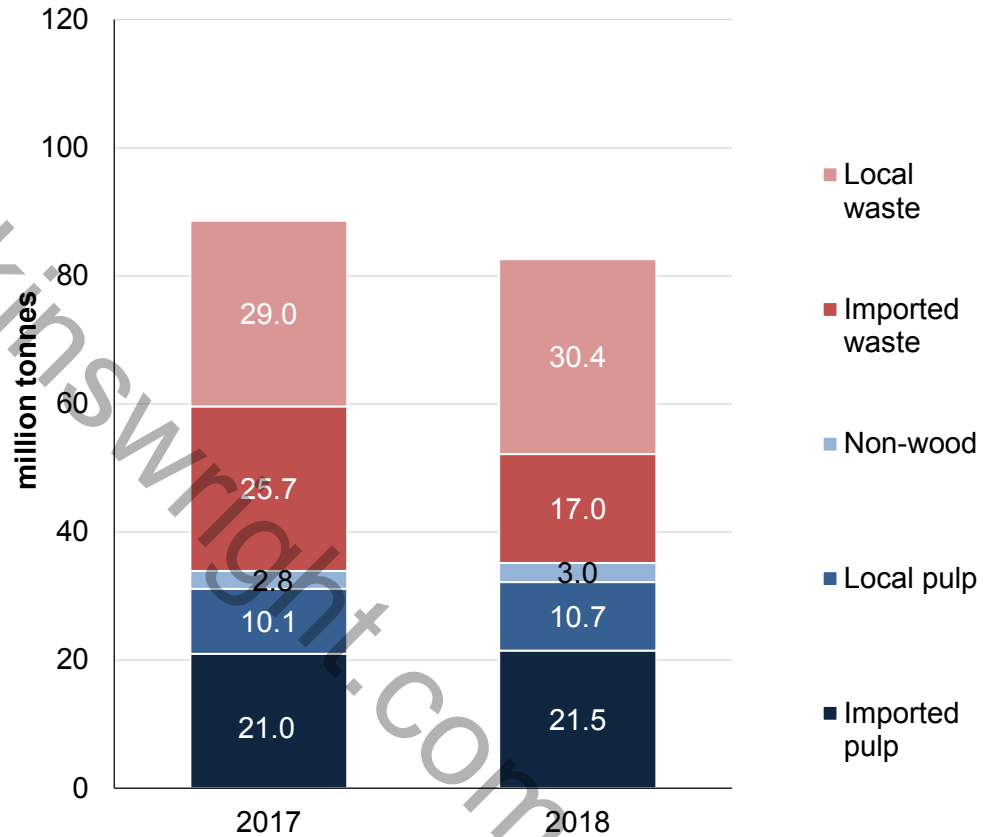
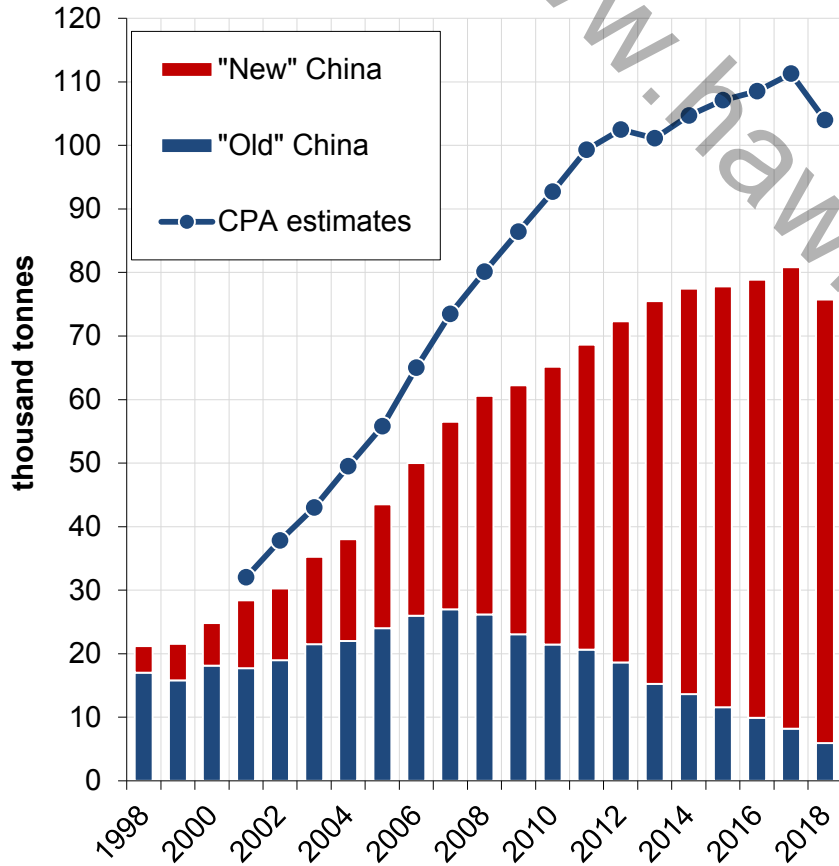
Source: Hawkins Wright

Note: list is not exhaustive

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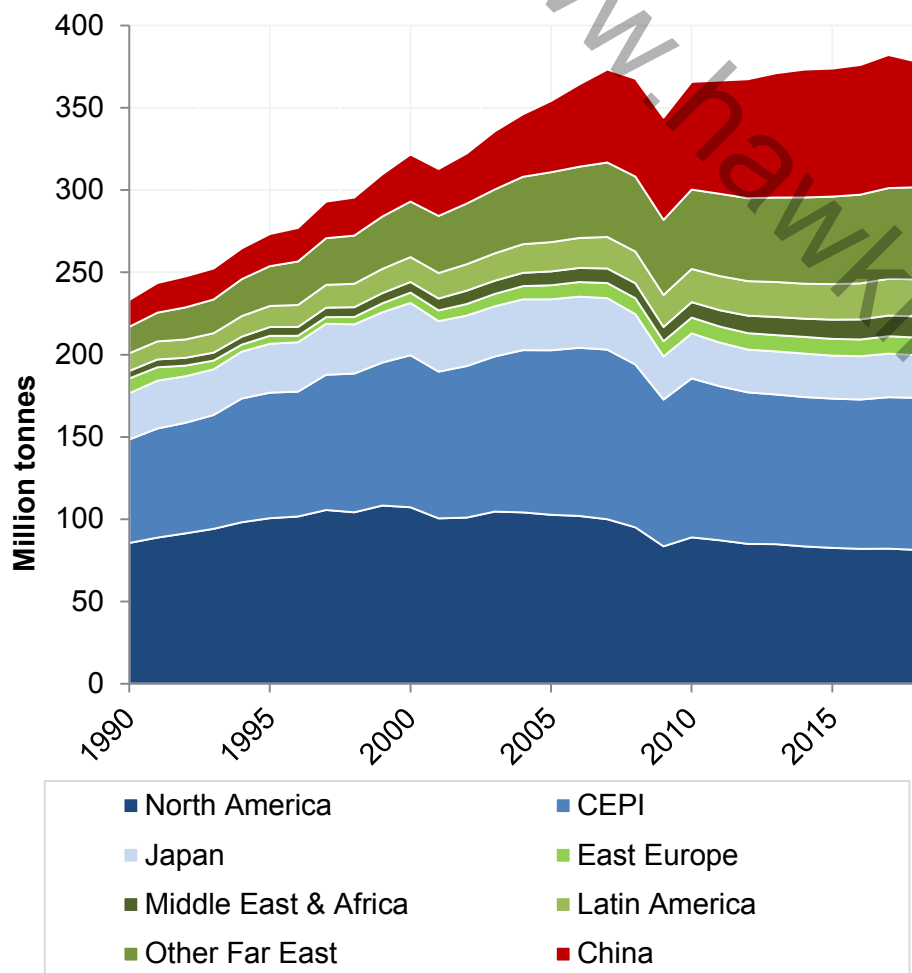
A crossroads for the Chinese paper industry?



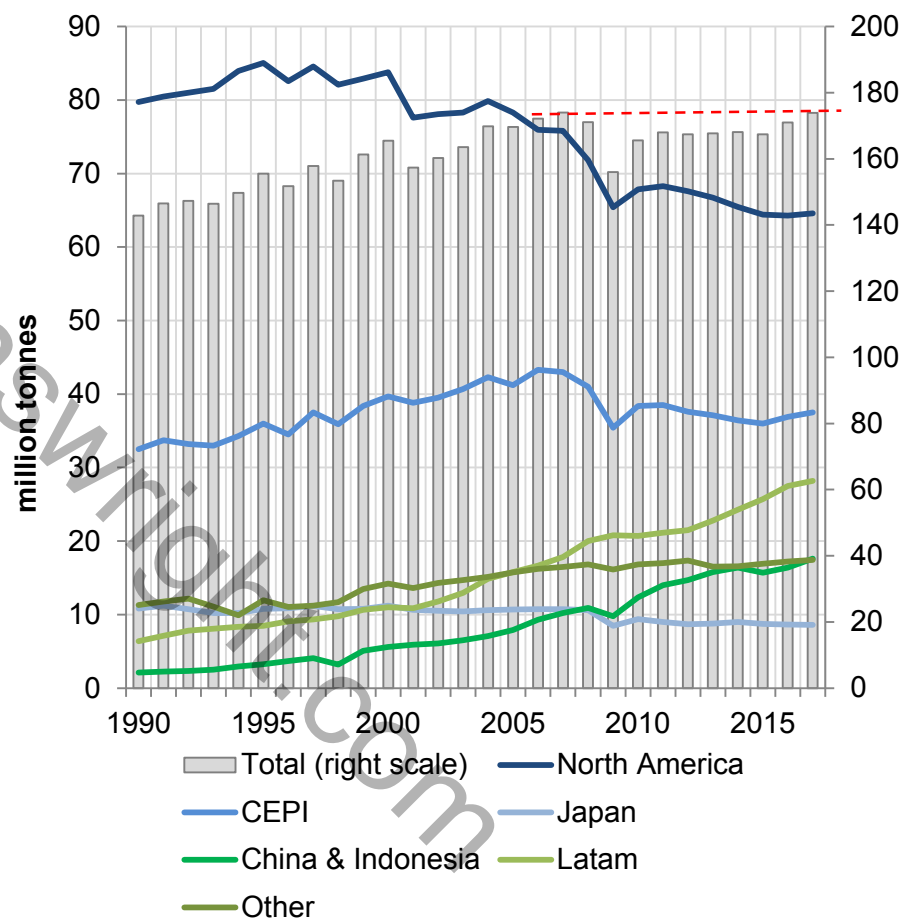
Global P&P output has been fairly stagnant for 10 years



Global paper and board production

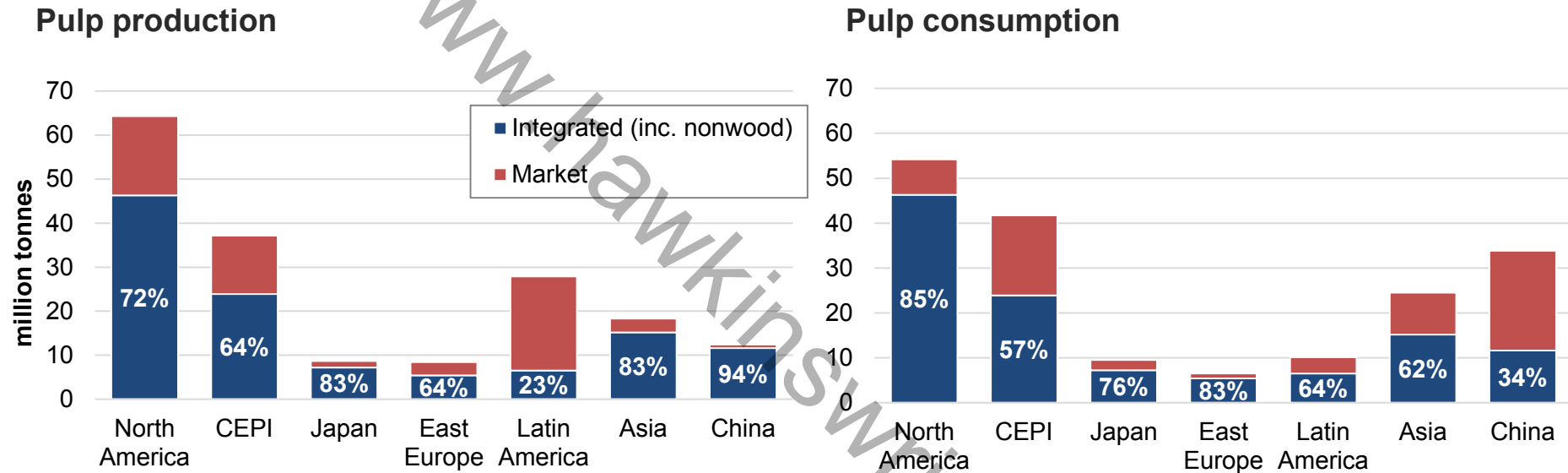


Global pulp production



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But the changing location of production promotes market pulp demand over integrated



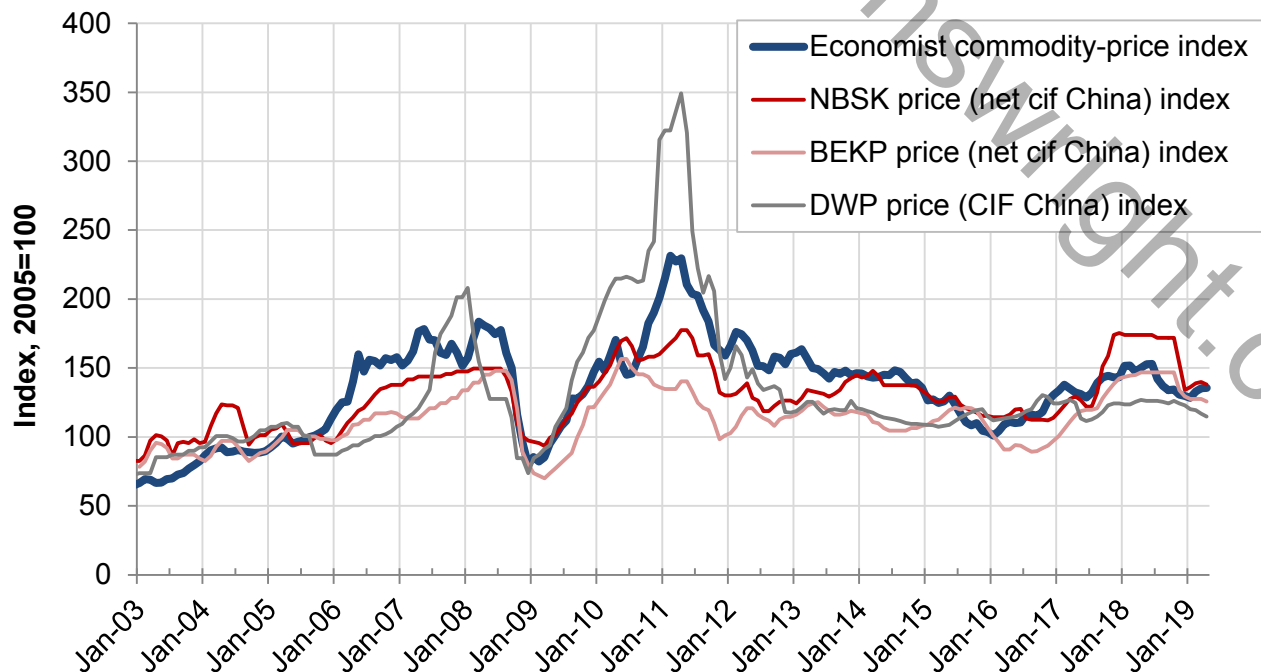
- Since 2007...
 - Paper production falls in NA, Japan, Europe (integrated)
 - And rises in China and other non-integrated countries
- This trend appears to be reversing, posing a threat to market pulp demand

It's the economy...



- The price of most commodities rose through 2016 and 2017 as global economic growth accelerated and some emerging markets emerged from recession
- USD strength = EUR, RMB weakness on the buy-side (less purchasing power) & CAD, BRL, IDR, etc. on the sell-side (lower production costs)
- Softwood prices clearly over-shot and were always due a correction
- Now further headwinds are emerging from US-China trade talks...

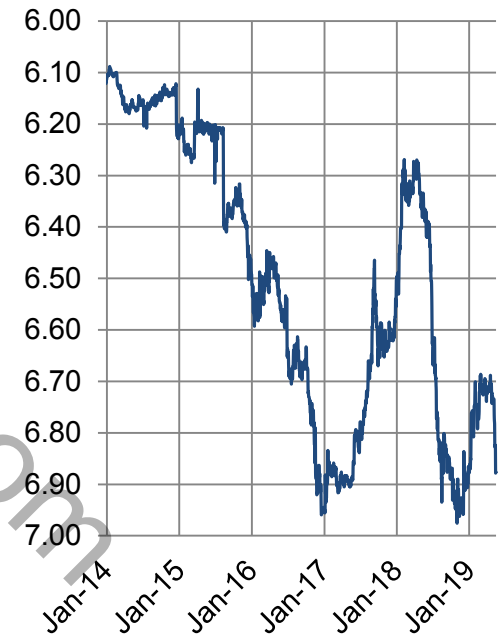
Pulp prices versus other commodities (index)



Source: Hawkins Wright, The Economist

China

Exchange rate: RMB/USD

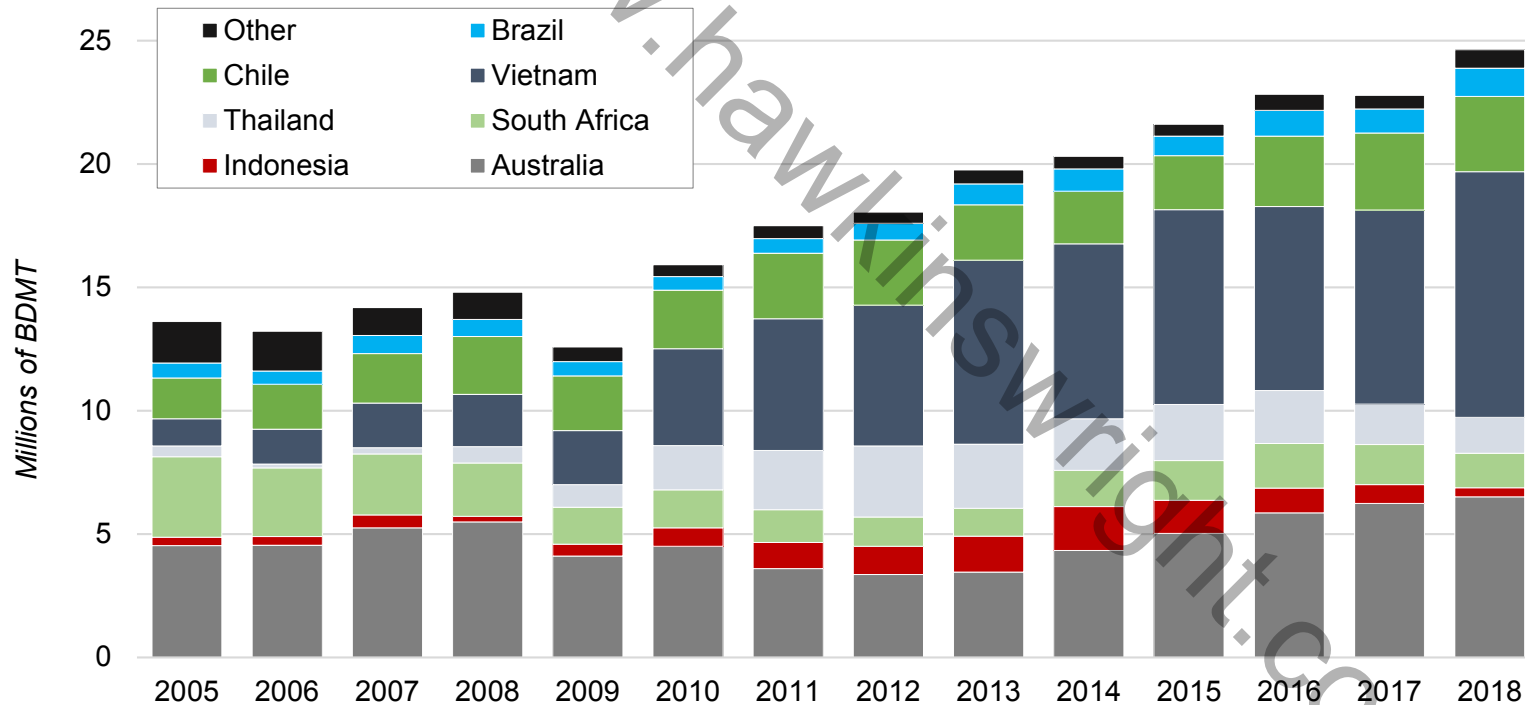


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How sustainable is the Asian pulp wood trade?



Hardwood chip exporters to Asia Pacific Rim
(i.e. China, Japan, Taiwan, Korea)



- From 2020 chip exports from Chile and Australia will fall
- Limited potential for growth elsewhere, meaning Asian pulp wood costs will rise further
- At the same time, Indonesia becomes a net importer of wood chips...

What do we conclude?



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- Inventory overhang will require time to clear, and although consolidation does increase scope for disciplined approach to supply, it should not overpower market forces!
- Demand is cyclical and price-sensitive!
- Can we realistically expect another bumper year?
- The Chinese price-inventory cycle and National Sword program have accelerated a tectonic shift in global fibre flows and paper production.
- Macro-economic drivers are weakening, and are exacerbating pressure on prices due to near-term supply/demand fundamentals – macro drivers will continue to dominate.
- The hunt for fibre is on, in a world where reliable sources of good quality and affordable wood are getting rarer!