



PINE CHEMICALS

New Normal

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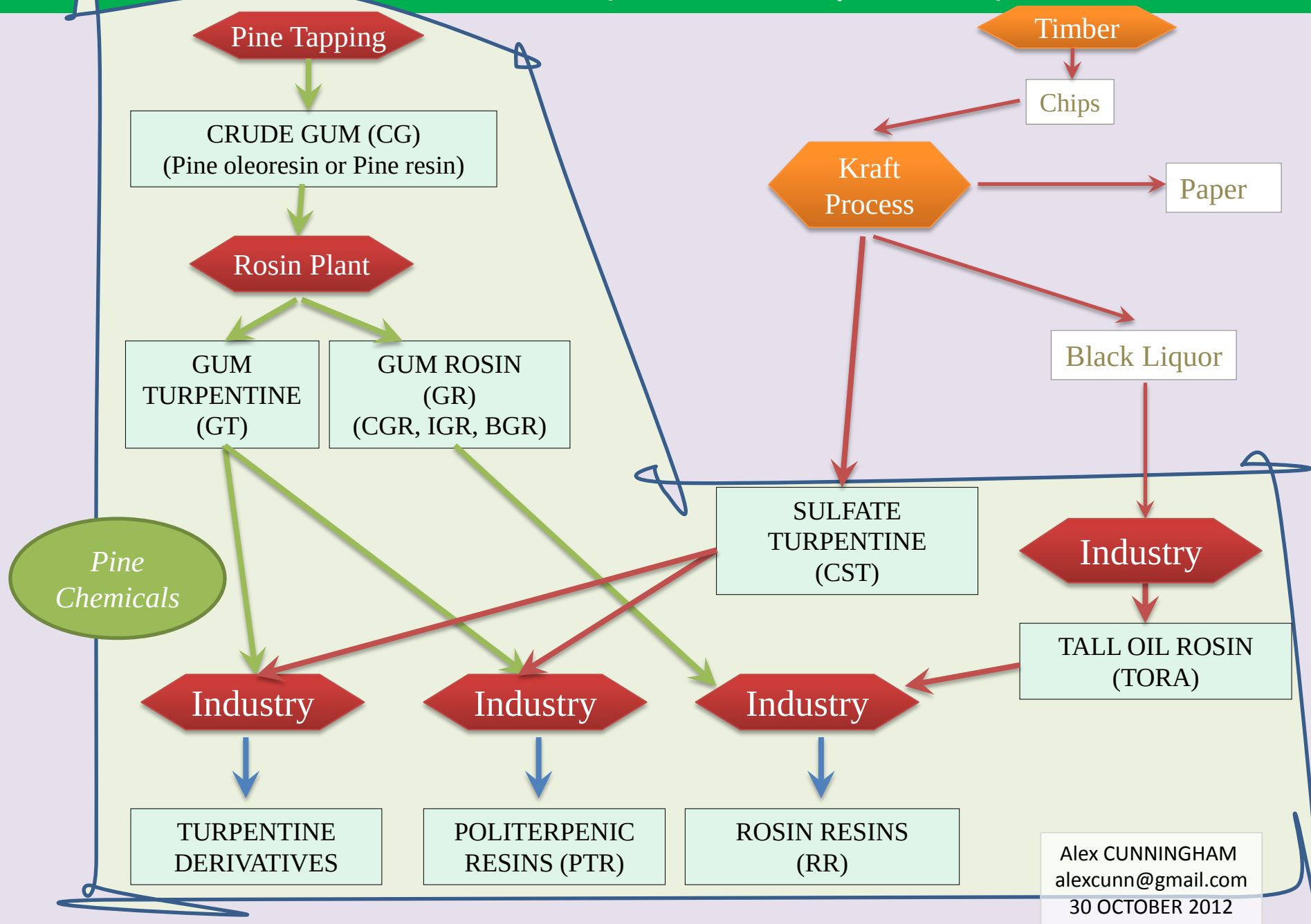
Workshop on the Pine Industry, Rescoll
30 October 2012
Bordeaux, France

“ The goal of forecasting is not to predict the future but to tell you what you need to know to take meaningful action in the present. ”

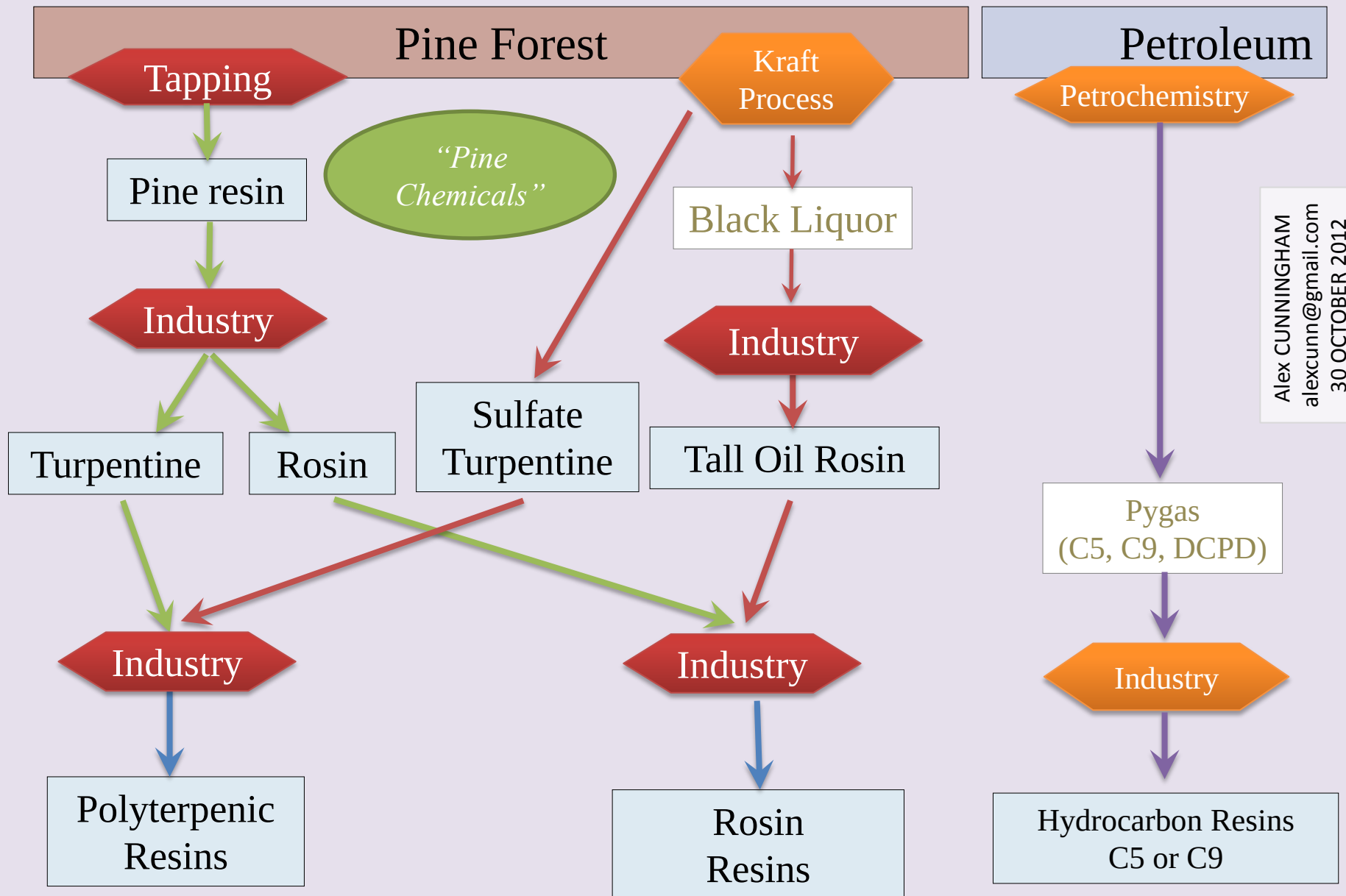
Paul Saffo

Six Rules for Accurate Effective Forecasting
Harvard Business Review,
July-August 2007, 122-131

PINE FOREST (natural or planted)



TACKIFIER RESINS



❑ Volumes and Prices

❑ China the #1!

❑ 2012 into a “New Normal”

❑ Field open for new(old) players

❑ Volumes and Prices

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TACKIFIER RESINS – GLOBAL VOLUMES IN KTON (2011)

TACKIFIER RESINS	[KTON]
ROSIN RESINS	1.090
HYDROCARBON RESINS	1.050
POLYTERPENIC RESINS	80
TOTAL	2.220

ROSIN RESINS	[KTON]
GUM ROSIN	690
TALL OIL ROSIN	390
WOOD ROSIN	10
TOTAL	1.090

HYDROCARBONIC	[KTON]
ASIA	452
NORTH AMERICA	241
EUROPE	252
REST OF THE WORLD	105
TOTAL	1.050

POLYTERPENIC	[KTON]
USA	30
EUROPE	20
REST OF THE WORLD	30
TOTAL	80

Source:

- AR Eldorado (2011) & (2012)
- Baumassy (2012).

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GUM ROSIN – GLOBAL PRODUCTION [TM/YEAR]

	1997	2007	2008	2009	2010	2011	2012	+5	+10
China	535.000	826.000	589.000	553.000	575.000	710.000	450.000		
Brazil	40.000	78.000	67.000	67.000	69.000	70.000	70.000		
Indonesia	69.000	56.000	55.000	55.000	52.000	52.000	52.000		
Vietnam						15.000	30.000		
India	33.000	35.000	35.000	35.000	33.000	31.000	30.000		
Mexico	22.000	16.000	16.000	16.000	22.000	22.000	22.000		
Argentina	21.000	9.000	9.000	9.000	11.000	13.000	22.000		
Other	46.000	17.000	17.000	13.000	15.000	17.000	21.000		
TOTAL	766.000	1.037.000	788.000	748.000	777.000	930.000	697.000		
		+ 35,3 %	- 24,6 %	- 5,1 %	+ 3,4 %	+ 19,7 %	- 32,2 %		

- 36 % ?!

Surces:

- Song Lifeng (2009) & (2012)
- Rosineb (2009)
- AR Eldorado (2011) & (2012)
- Baumassy (2012).

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GUM ROSIN – CHINESE PRODUCTION [TM/YEAR]

Current Production Record !

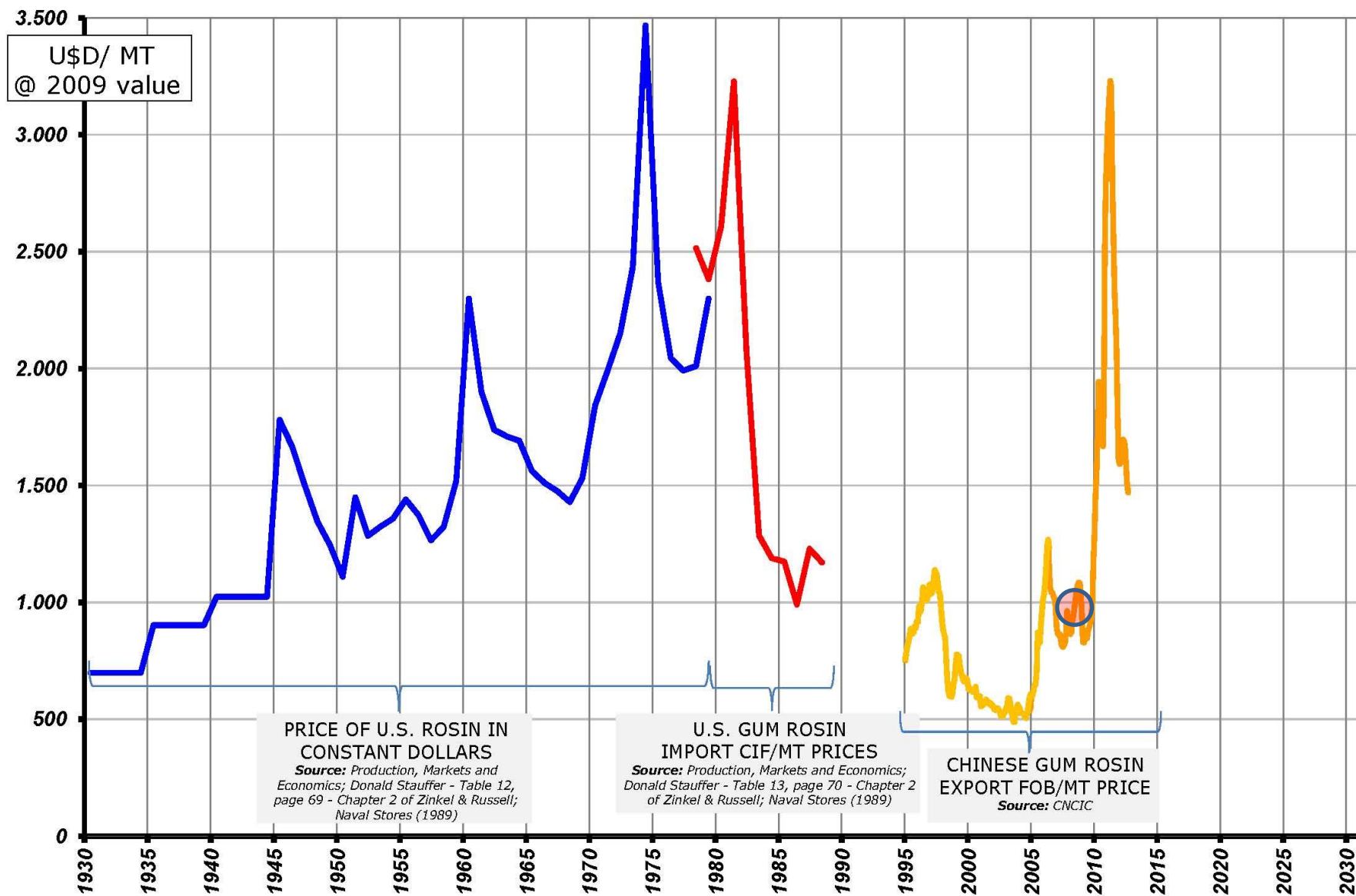
[1.000 TM/YEAR]

Province	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Yunnan (YN)	41	44	53	65	70	75	120	90	110	130	195	230	
Guangxi (GX)	170	200	246	260	270	280	300	290	200	160	230	140	
Guangdong (GD)	125	130	126	140	145	155	170	165	95	80	83	76	
Hubei (HU)	8	8	12	15	15	15	20	30	40	50	67	264	450
Jiangxi (JX)	24	25	27	30	40	72	85	100	37	40			
Fujian (FJ)	47	46	38	35	45	52	60	55	37	32			
Anhui (AH)	2	2	3	3	3	3	5	8	8	12			
Henan (HE)							5	5	10	12			
Guizhou (GZ)	2	4	5	8	8	8	10	20	12	10			
Hunan (HU)	13	15	18	20	20	20	30	30	15	10			
Sichuan (SC)	2	2	3	5	5	5	8	10	7	5			
Hainan (HA)							2	5	5	5			
Shanxi (SX)							5	5	5	3			
Chongqing (CQ)							3	5	3	3			
Zhejiang (ZJ)	4	4	5	7	7	7	5	8	5	1			
TOTAL	439	480	536	588	628	692	828	826	589	553	575	710	450
		9,5%	11,5%	9,7%	6,8%	10,2%	19,6%	-0,2%	-28,7%	-6,1%	+3,9	+23,4	-36,6

Sources:

- AR Eldorado (2011) & (2012)
- Song Lifeng, Nanjing (Novembro 2009).
- Zhao Mingui (2011).
- ROSINNET (2010).

Gum Rosin Price History at 2009 US Dollar Value



Volumes and Prices

- Historic price peak
- China the #1; Brazil and Indonesia #2; plus many many others...

❑ Volumes and Prices

❑ China the #1!

❑ 2012 into a “New Normal”

❑ Field open for new(old) players



Wuhile Stadium
Shenyang, LN, China

Build in: 1998

Blown in: 2007

9 years!

Olimpic Stadium
Shenyang, LN, China

Build in: 2003

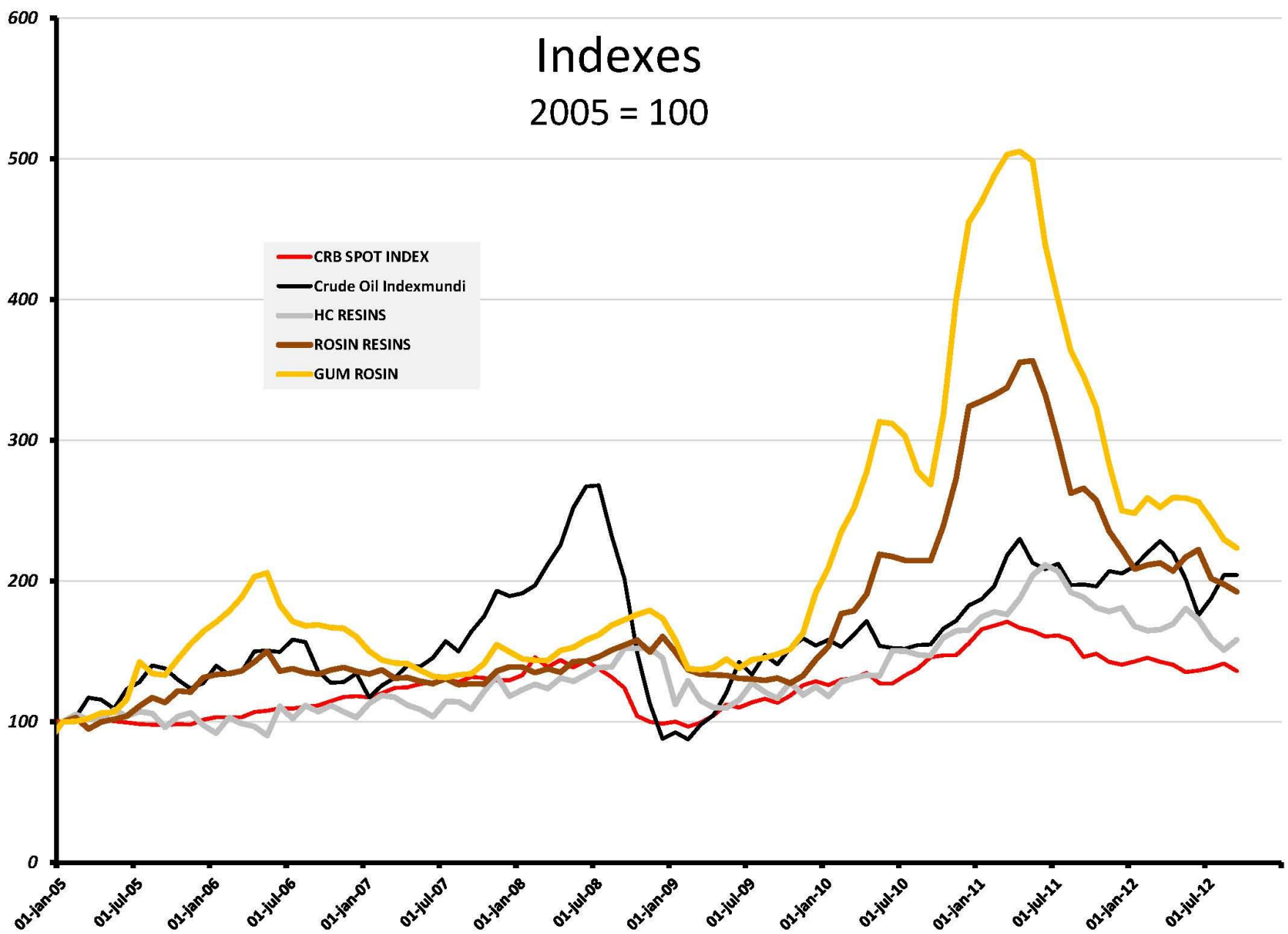
Blown in: 2012

9 years!

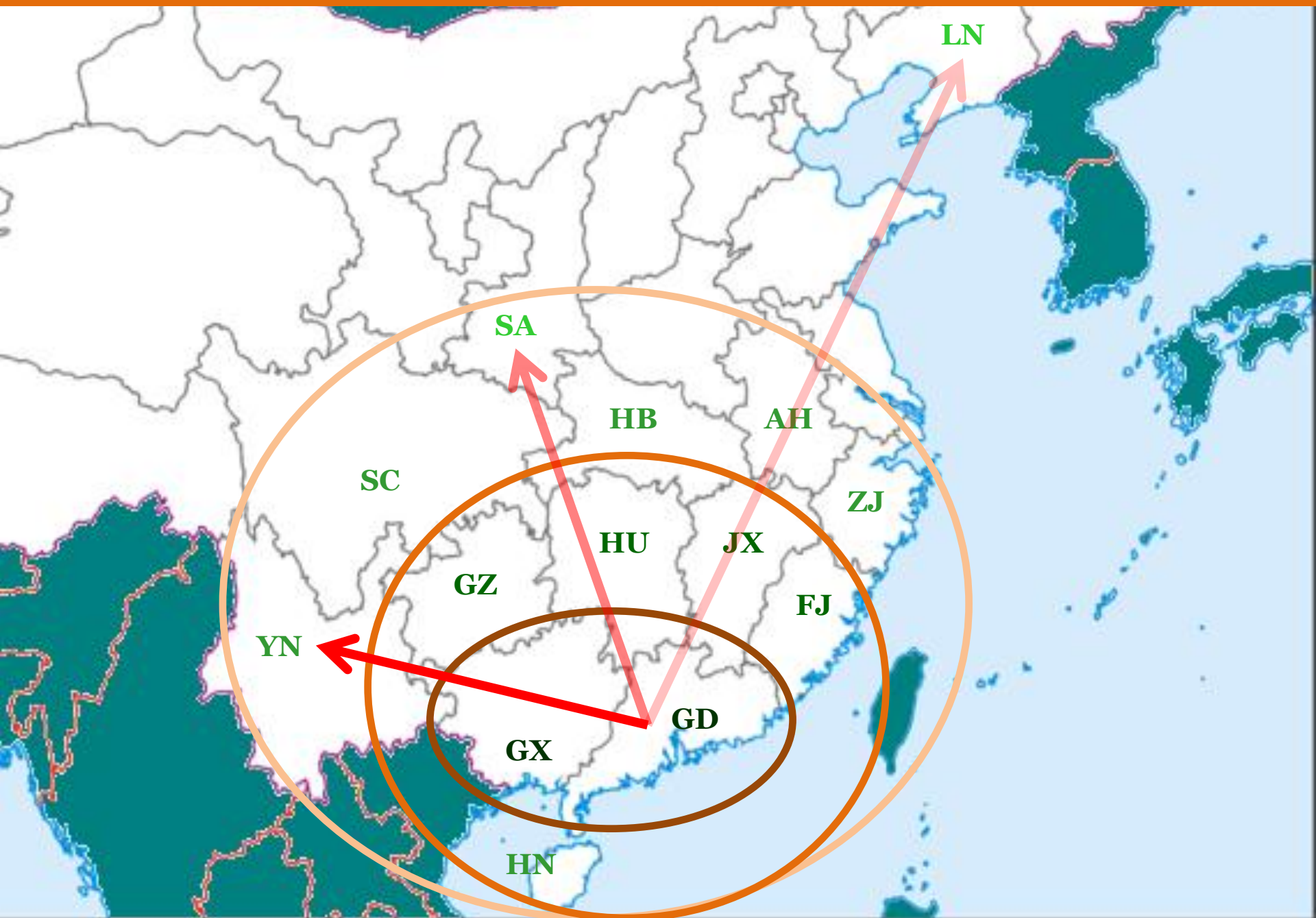


Indexes

2005 = 100



GUM ROSIN – CHINESE PRODUCTION MAP



EVOLUÇÃO SALARIAL - CHINA

	2004	2006	2008	2010	2011	2012
GUANGZHOU (Cidade)						
Salário Mínimo (RMB/mês)	684	780	860	1.100	1.300	1.470
Temporário Construção (RMB/dia)	70 ~ 90	90 ~ 120	100 ~ 130	120 ~ 170	130 ~ 200	
GUANGDONG (Provincia)						
Temporário Rural (RMB/dia)	50 ~ 70	60 ~ 80	70 ~ 100	100 ~ 130	110 ~ 150	

6,3 RMB = 1 USD

3,2 RMB = 1 R\$

CHINA – PINE TAPPER

1 WORKER
1500 TREES
2 KG PER TREE/YEAR

PINE TREE “RENT”
6 RMB / TREE YEAR = (9.000)

“ADMINISTRATION” COST
500 RMB / MT PINE RESIN * 3 TON = (1.500)

SALE OF PINE RESIN TO ROSIN PLANT
3 ton * 8.300 RMB / MT = 24.900
=====

NET 14.400 RMB

/ 25 DAYS * 6 MONTH = **96 RMB/DAY**





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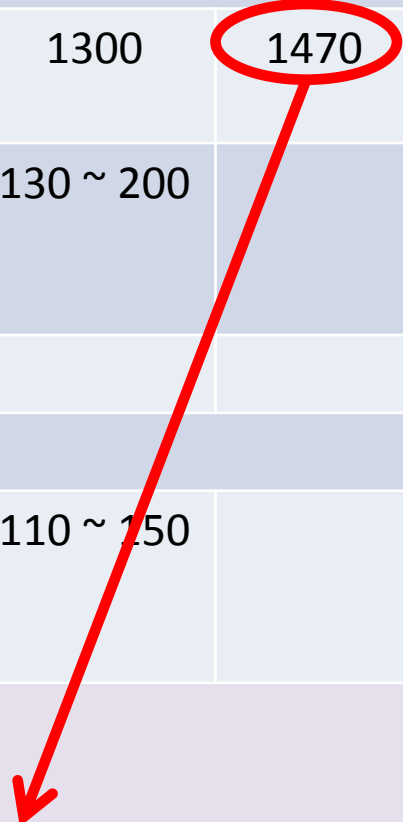
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**CURRENT PINE RESIN
PRICE IN CHINA**

CHINA – SALARY EVOLUTION

	2004	2006	2008	2010	2011	2012
GUANGZHOU (City)						
Minimun Wage (RMB/month)	684	780	860	1100	1300	1470
Construction Temporary (RMB/day)	70 ~ 90	90 ~ 120	100 ~ 130	120 ~ 170	130 ~ 200	
GUANGDONG (Province)						
Rural Temporary (RMB/day)	50 ~ 70	60 ~ 80	70 ~ 100	100 ~ 130	110 ~ 150	

**QUINQUENAL PLAN 2011/2016
+ 15% PER YEAR!
2016 → 2570 RMB/month**





China the #1 = The “Perfect Storm”

- Speculation
- Limited forest resources
- Hand labor scarcity

❑ Volumes and Prices

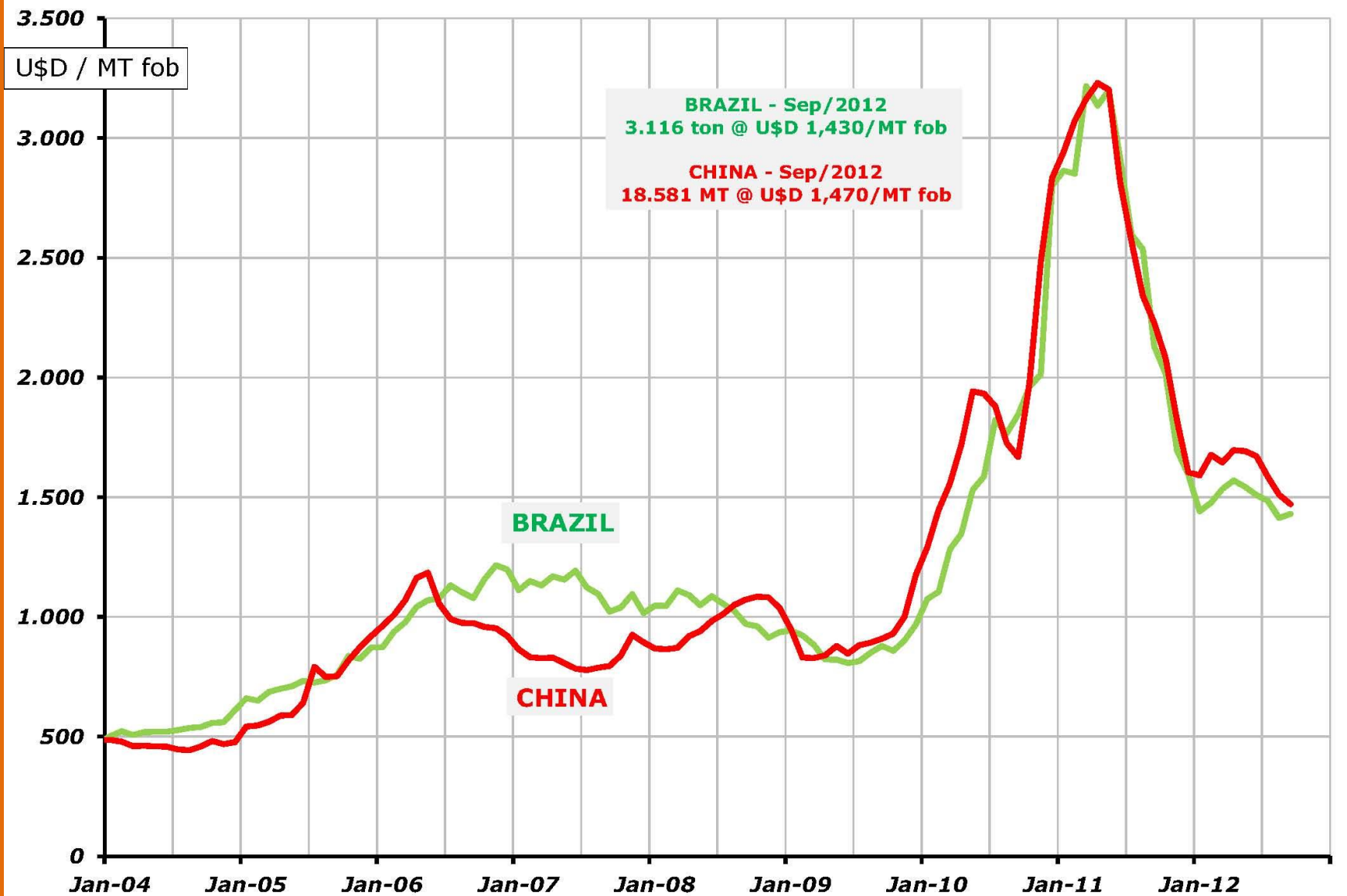
❑ China the #1!

❑ 2012 into a “New Normal”

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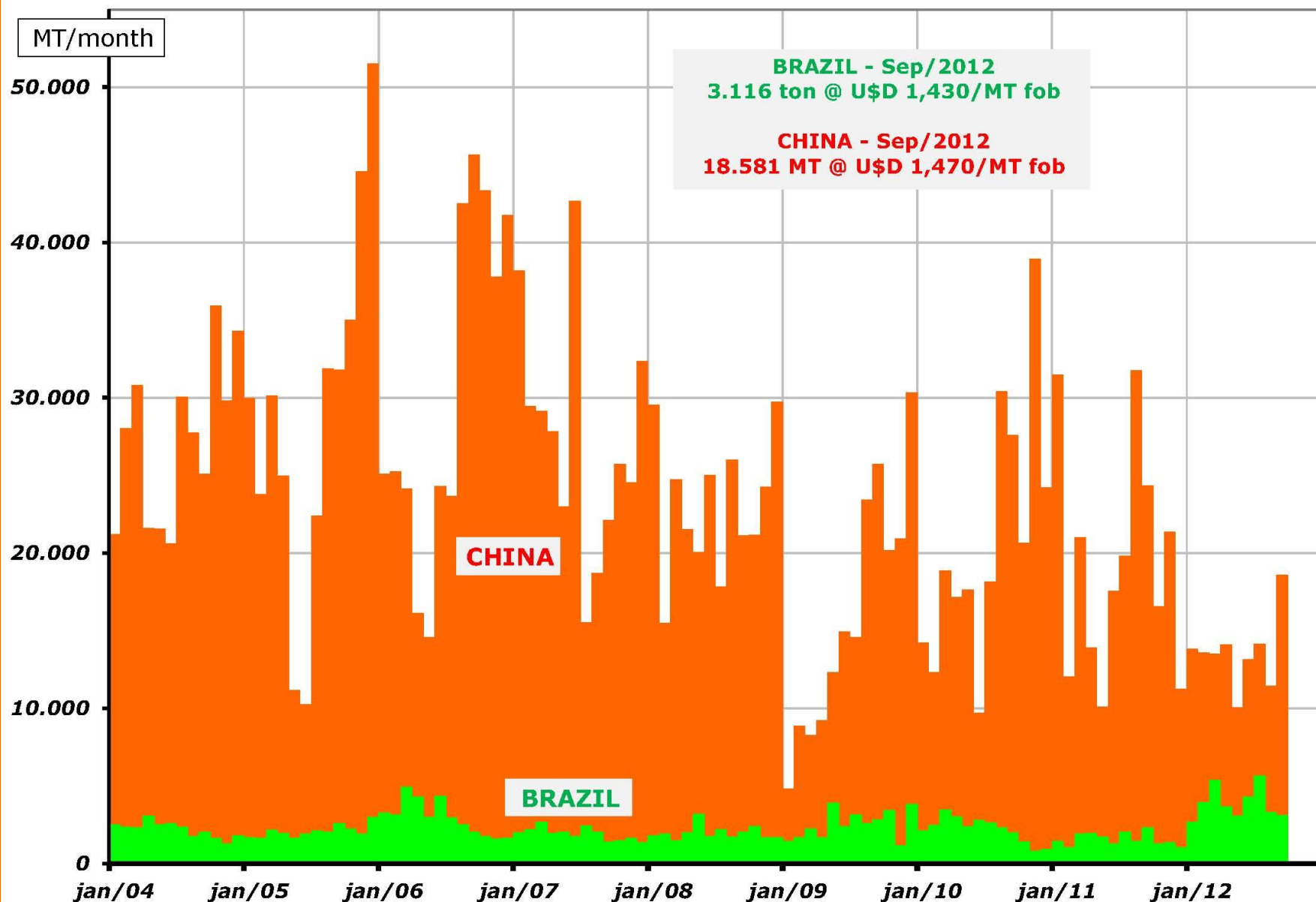
Gum Rosin Export Price - China vs. Brazil

Sources: Aliceweb, CNCIC



Gum Rosin Export Volume - China vs. Brazil

Sources: Aliceweb, CNCIC



2012 into a “New Normal”

- Example: Brazil vs. China export market

❑ Volumes and Prices

❑ China the #1!

❑ 2012 into a “New Normal”

❑ Field open for new(old) players

Field open for new (old) players

- Demand for “Pine Chemicals”
- Sustainable supply
- Competitive price
- Modern tapping technique



Thank you!