Global Oilseed markets

How do different oilseeds relate?

GCIRC Technical Meeting 2015
Mercantile Consulting Venture Inc.
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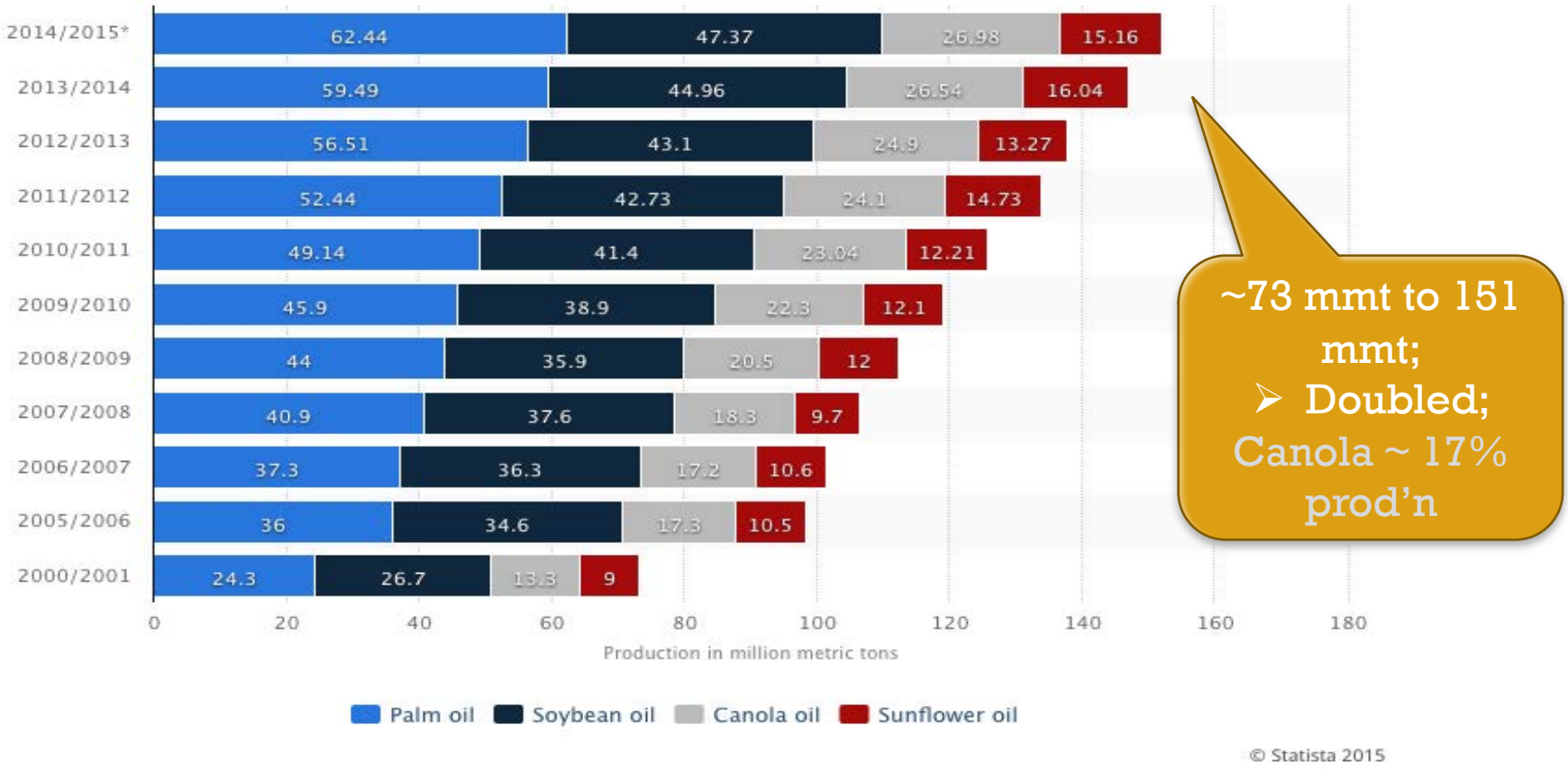
Overview

Insights vegetable oil markets

- Price relationships between 4 big oils: palm, soy, canola, sunflower – is palm oil the lead commodity?
- Price Patterns
- Effect of biodiesel policy interventions on price patterns
- Look at premise: "In the long-run, all vegetable oil prices are driven by palm oil."
- Forecast?

World production of major vegetable oils from 2000/'01 to 2014/'15, by oil type (in million mt)

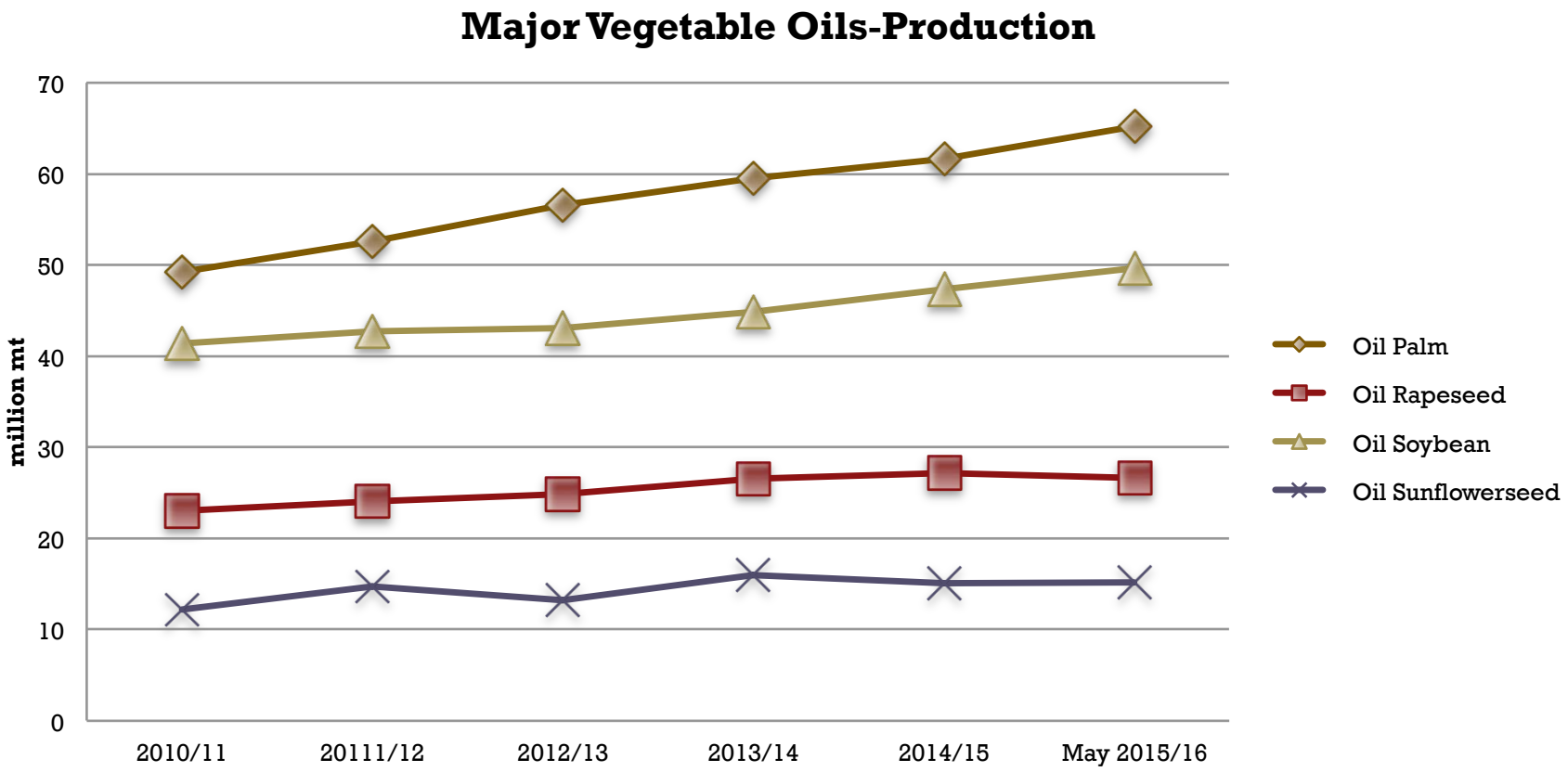


~73 mmt to 151 mmt;

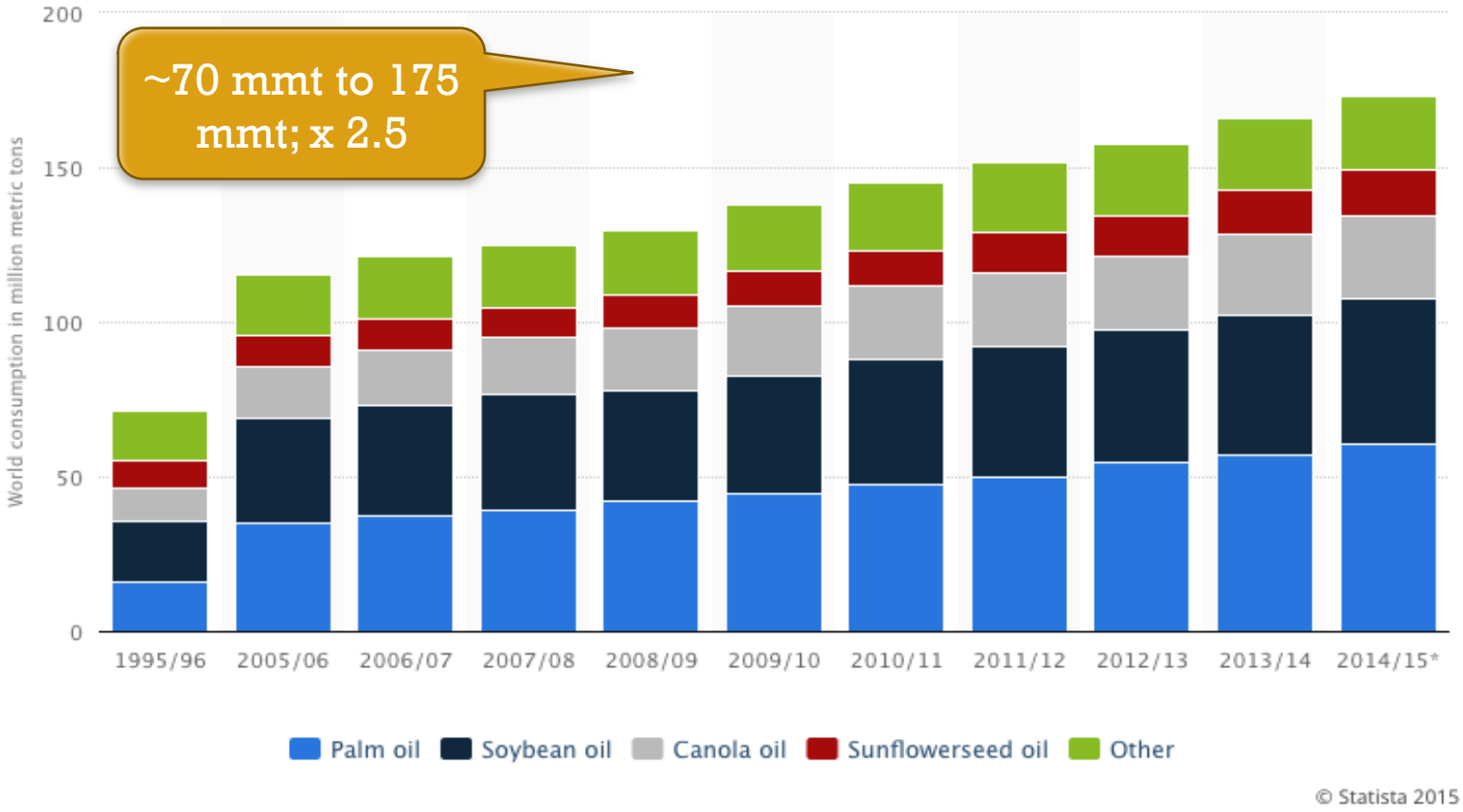
- Doubled;

Canola ~ 17% prod'n

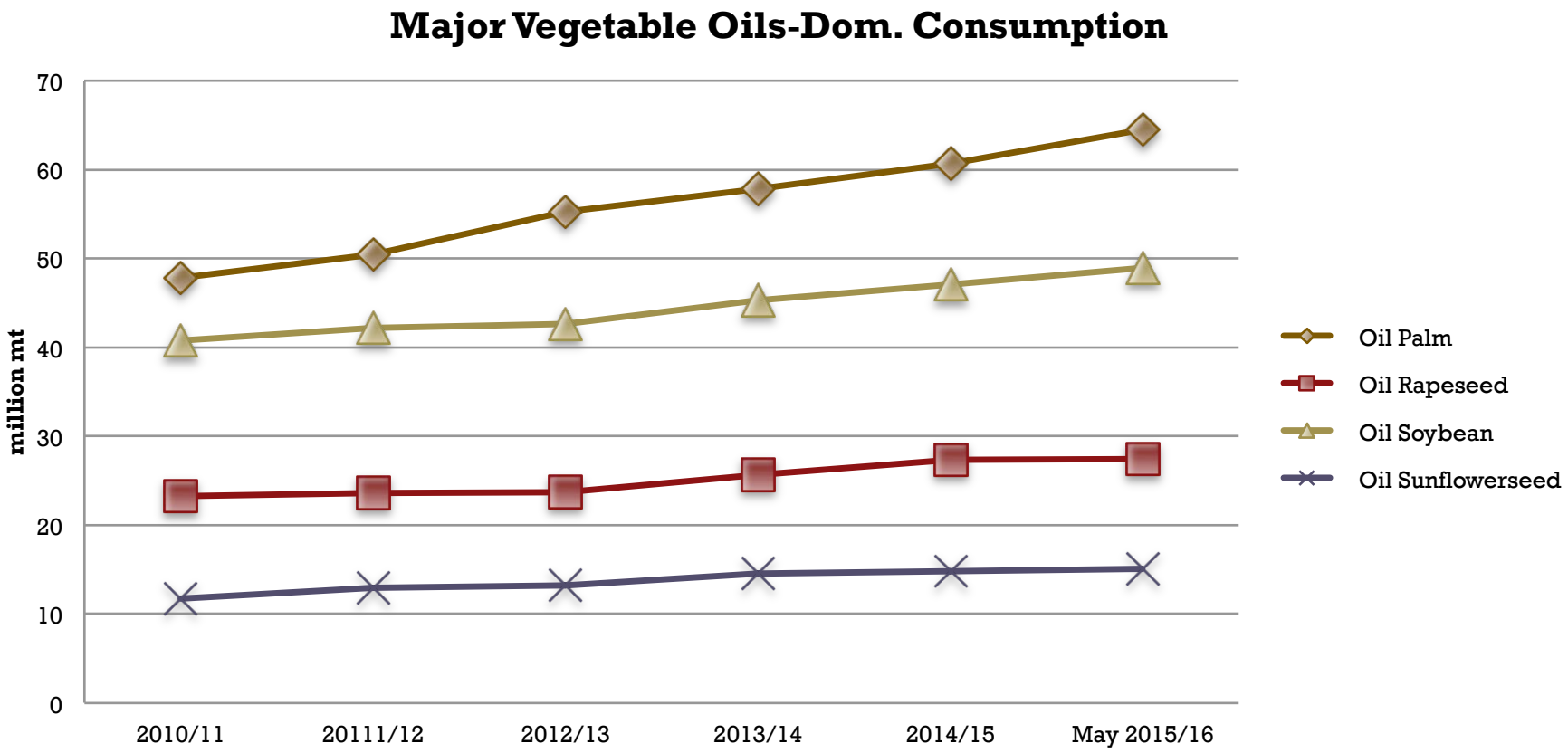
The basics - **Production** trajectory by crop



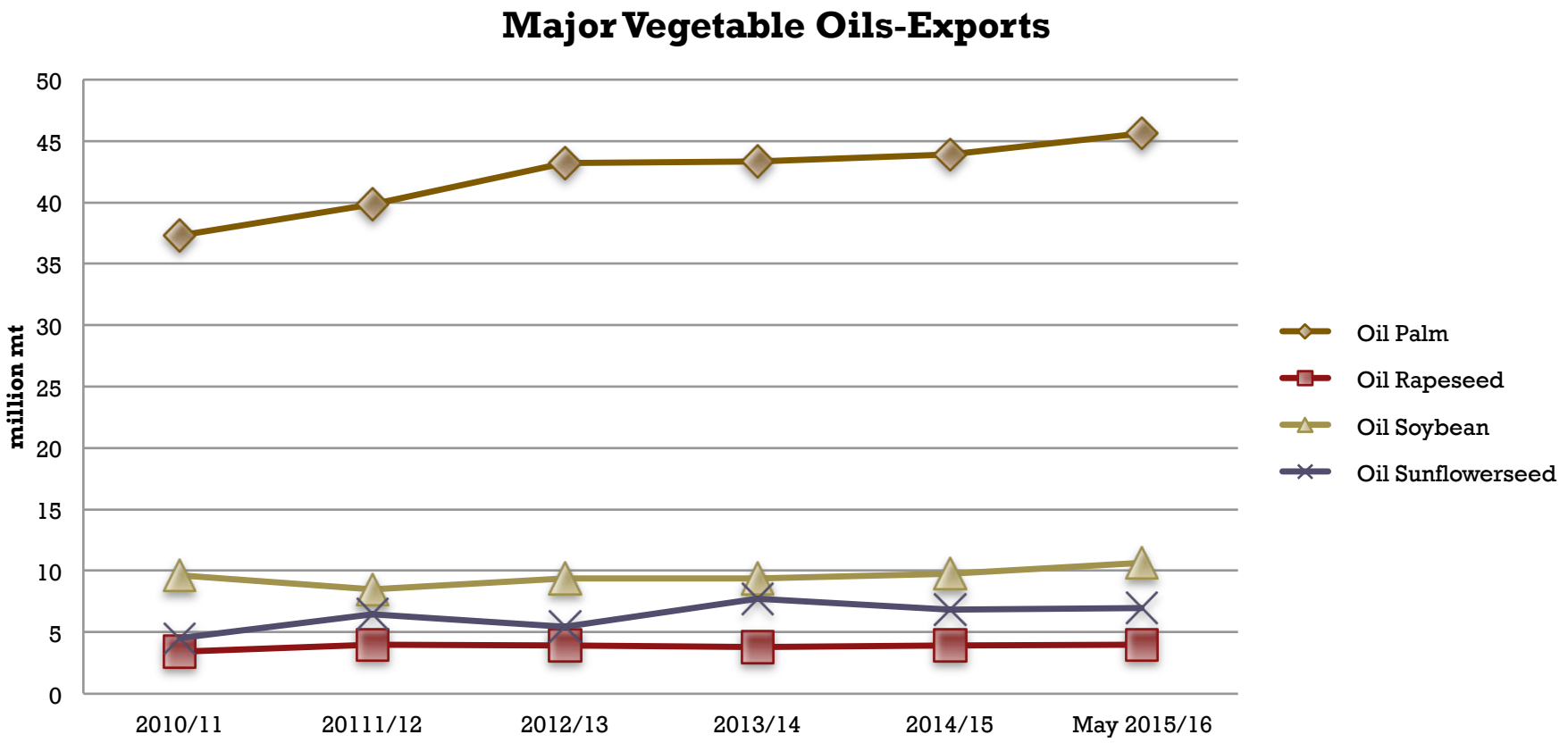
Global consumption of vegetable oils from 1995/'96 to 2014/'15, by oil type (in million mt)



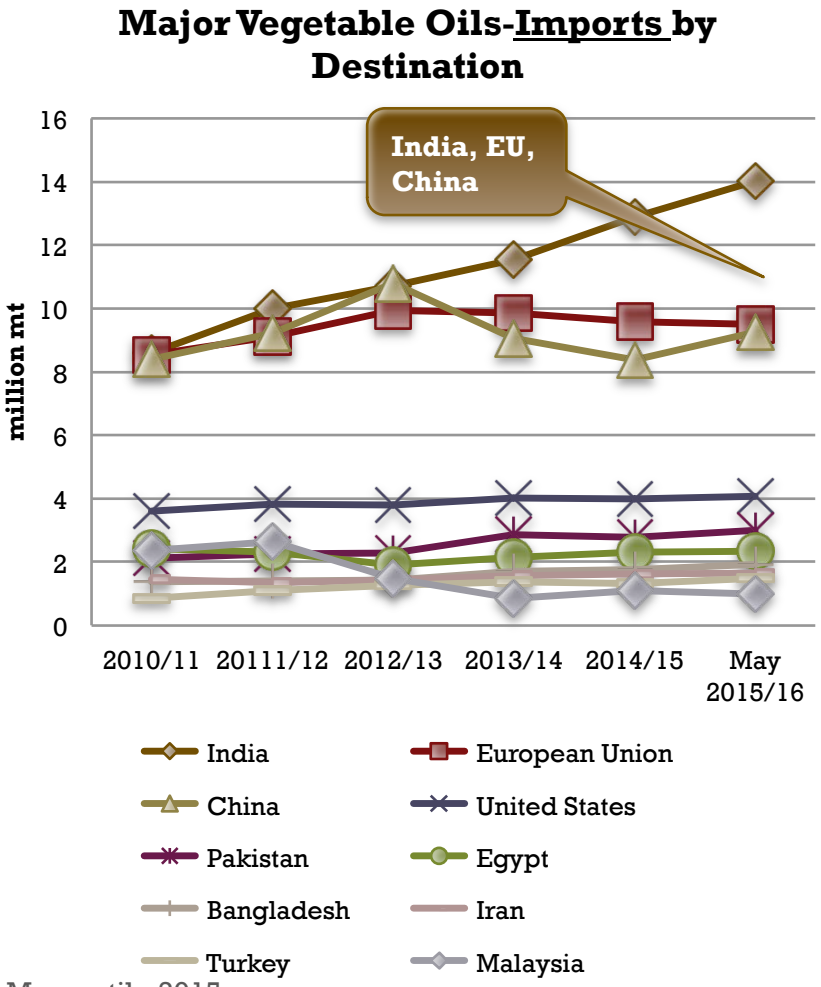
Domestic **consumption** trajectory by crop

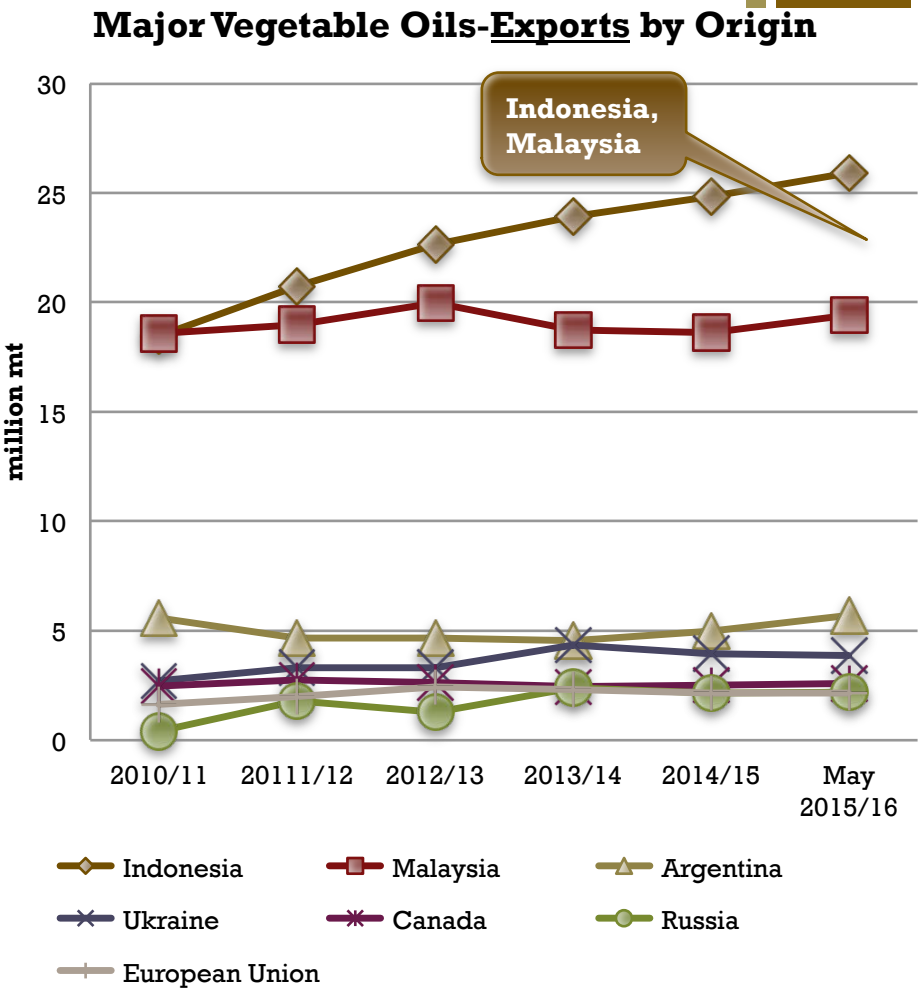


Global export trajectory by crop

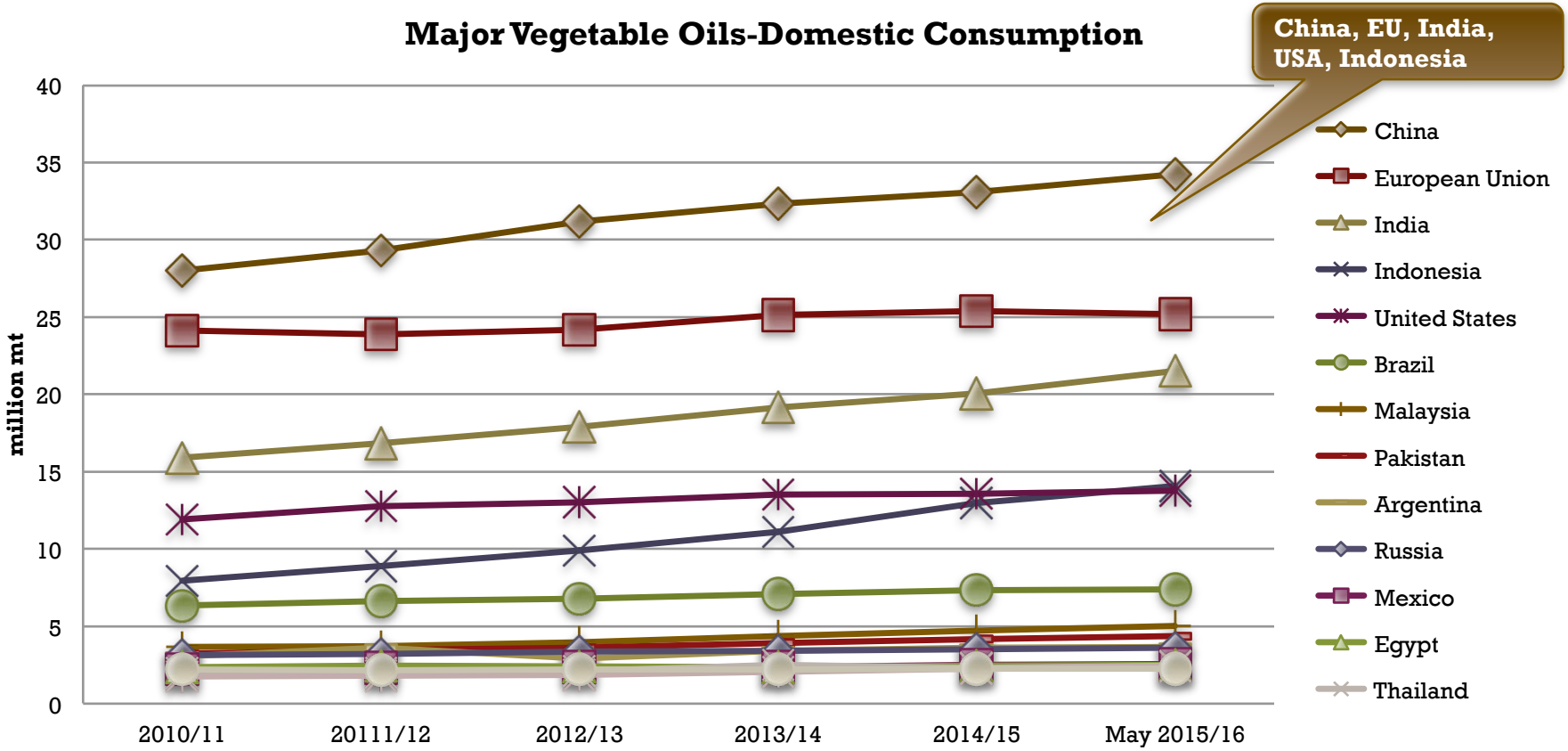


Import & export nations

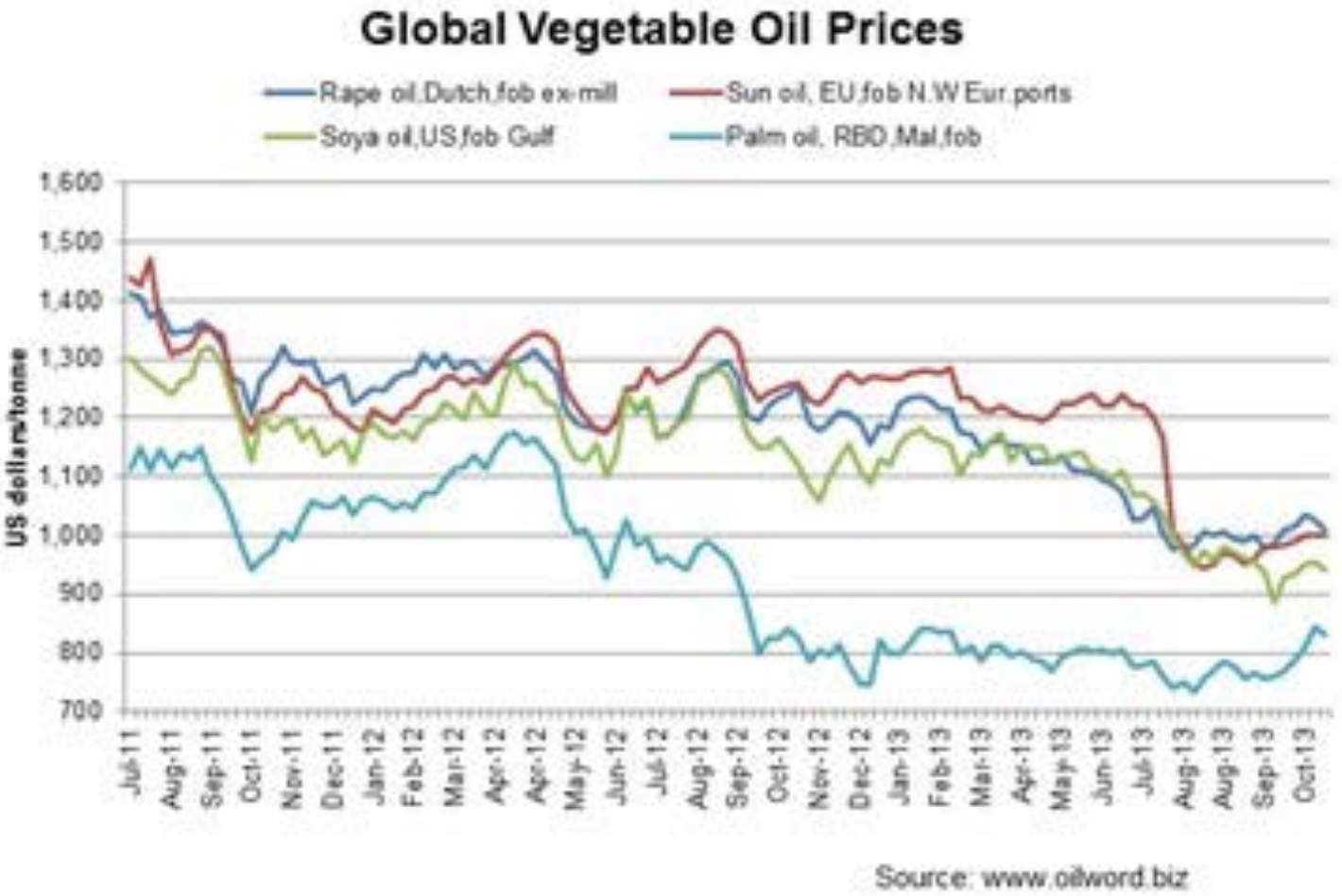




Biggest **veg. oil consumers**



Prices



Source: www.oilword.biz

Prices – what drives vegetable oil prices

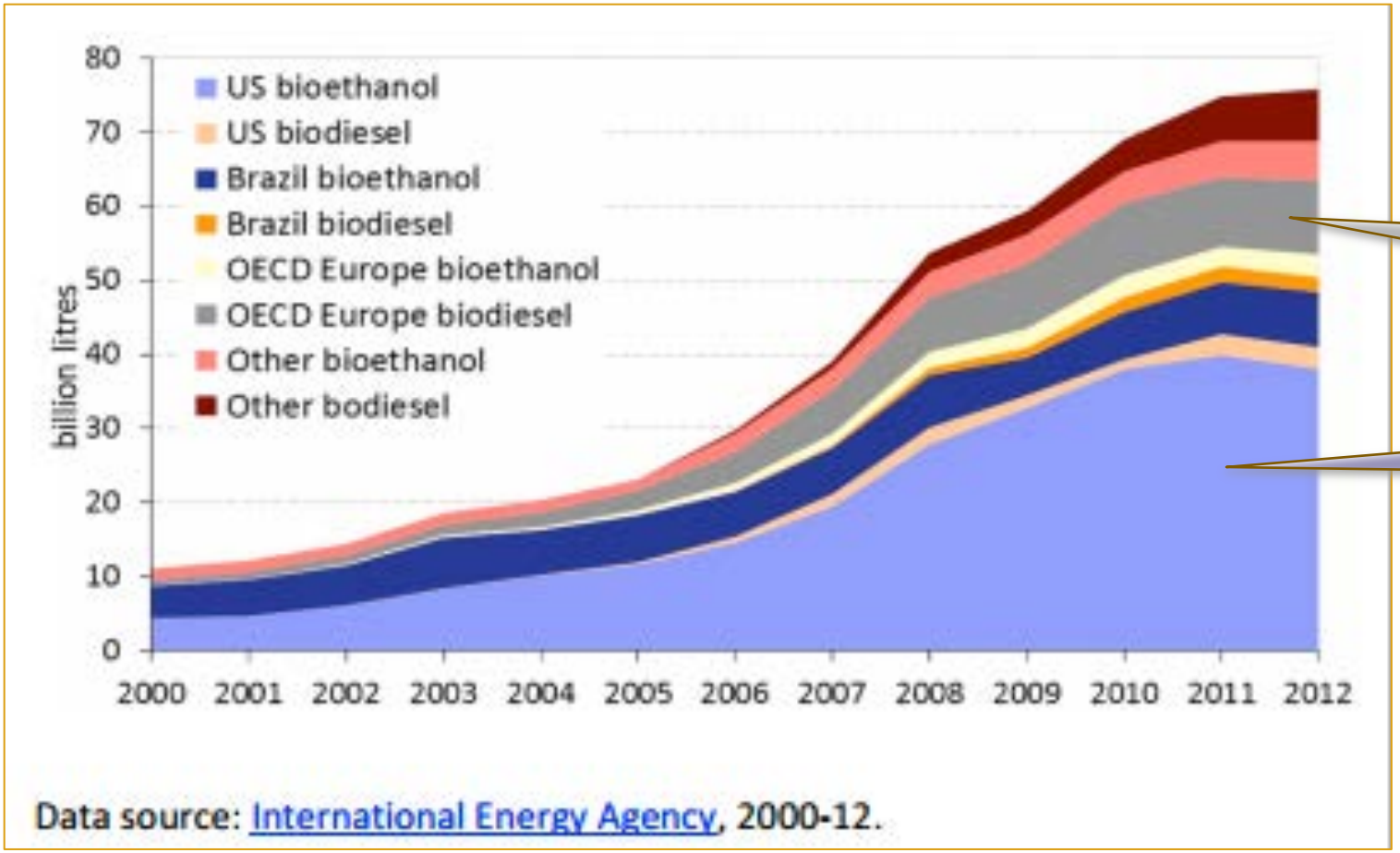
- Premise 1: All vegetable oil prices are driven by palm oil, and the global palm oil economy is driven by biofuels

- Or premise 2: Nearby fundamentals – interplay major oilseeds: stocks, supply (down), demand (up), production costs (up), market dynamics; Other causal factors

General palm oil facts

- Palm oil production increased from 14.2 mln mt in 1993 to 54.4 mln mt in 2013 [**3.8-fold** increase; FAO numbers]
- Total primary oilseed production increased from 80 mln mt in 1993 197 mln mt in 2013 [**2.3-fold** increase; FAO numbers]
- Palm oil generally exhibits a discount to soybean oil
  - Trade policies play a role (eg., India's tariff policy; preference for SO)

Global biofuel production 2000-2012 (billion litres)



EU biodiesel

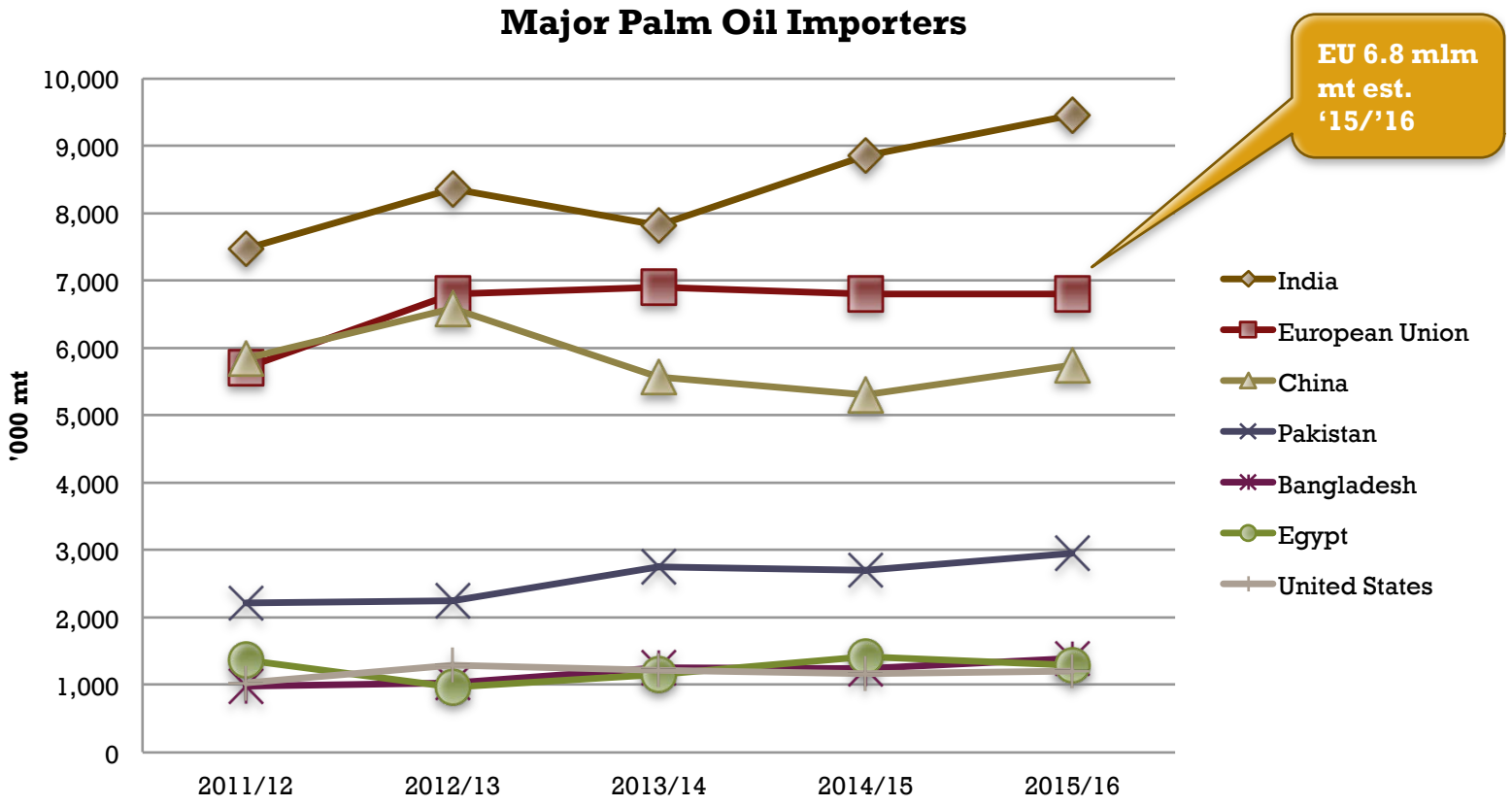
US ethanol

EU biofuel example

- The EU-27 = one of the key consumers of palm oil globally; 2nd biggest importer PO
  - share of global palm oil consumption has been relatively stable over the last 20 years: 12 to 15 %
- The other key consumers:
  - India: (~ 15 % of global consumption in 2010–2013),
  - China (~ 14 %),
  - Indonesia (12–15 %)
  - Malaysia (~ 11 %)

(FAOSTAT, Oil World, 2013).

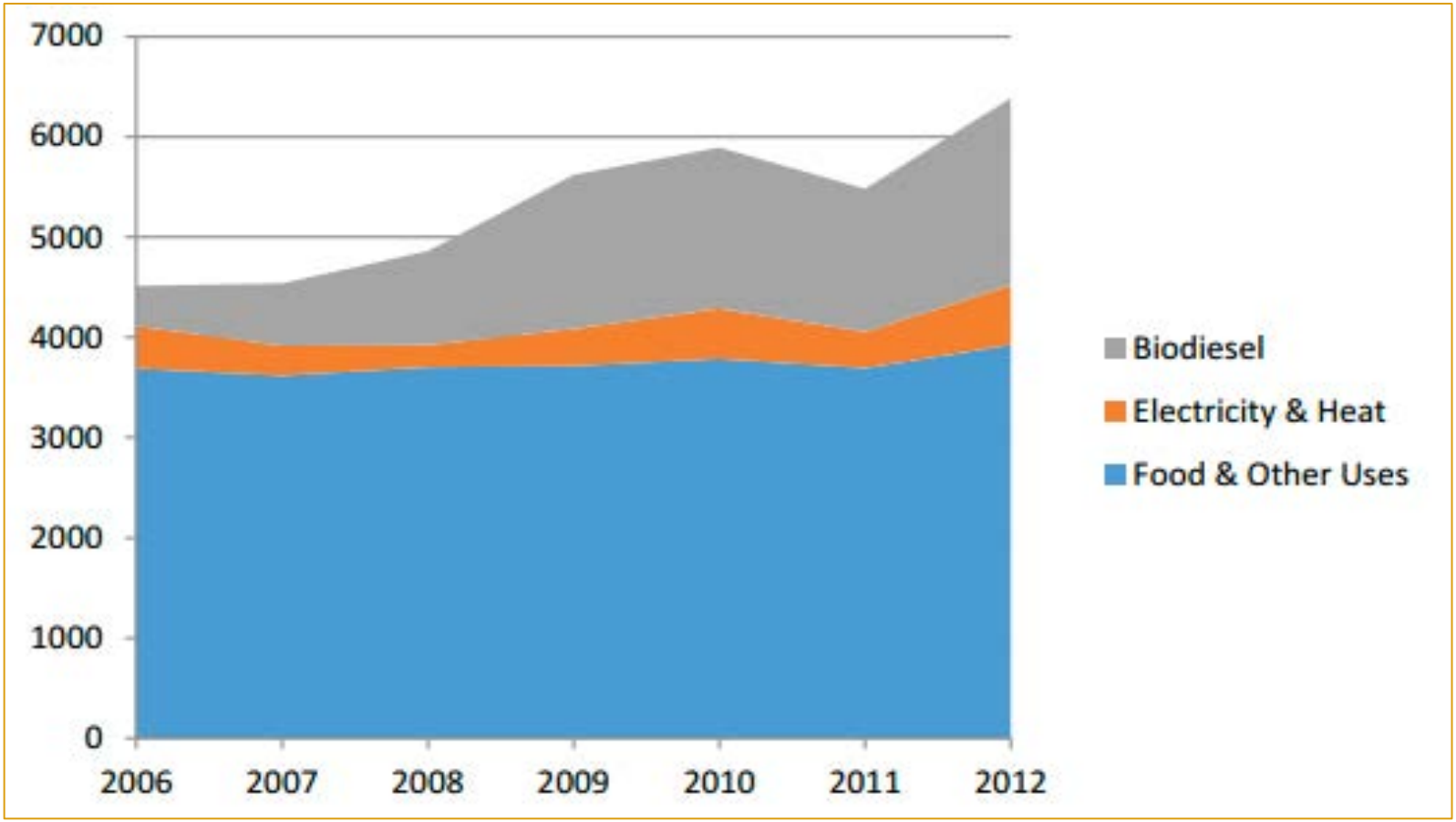
EU – 2nd palm oil importer



Palm oil use EU-27

- **Usage trend** 2006–2012: EU-27 increased **total use** of palm oil by **40%**
  - from 4.5 to 6.4 million tonnes
  - in line with the global expansion of palm oil production and consumption
- EU palm oil use **by usage sector** (2012):
  - **~ 1.9 million tonnes were used for biodiesel production**
  - 0.6 million tonnes for electricity and heat generation
  - **3.9 million tonnes, was used by the non-energy sector,**
    - food production, personal care (cosmetics, detergents) and oleo-chemical (paints, lubricants) industries

Palm oil use in the EU by sector (000 mt) [source:IISD]

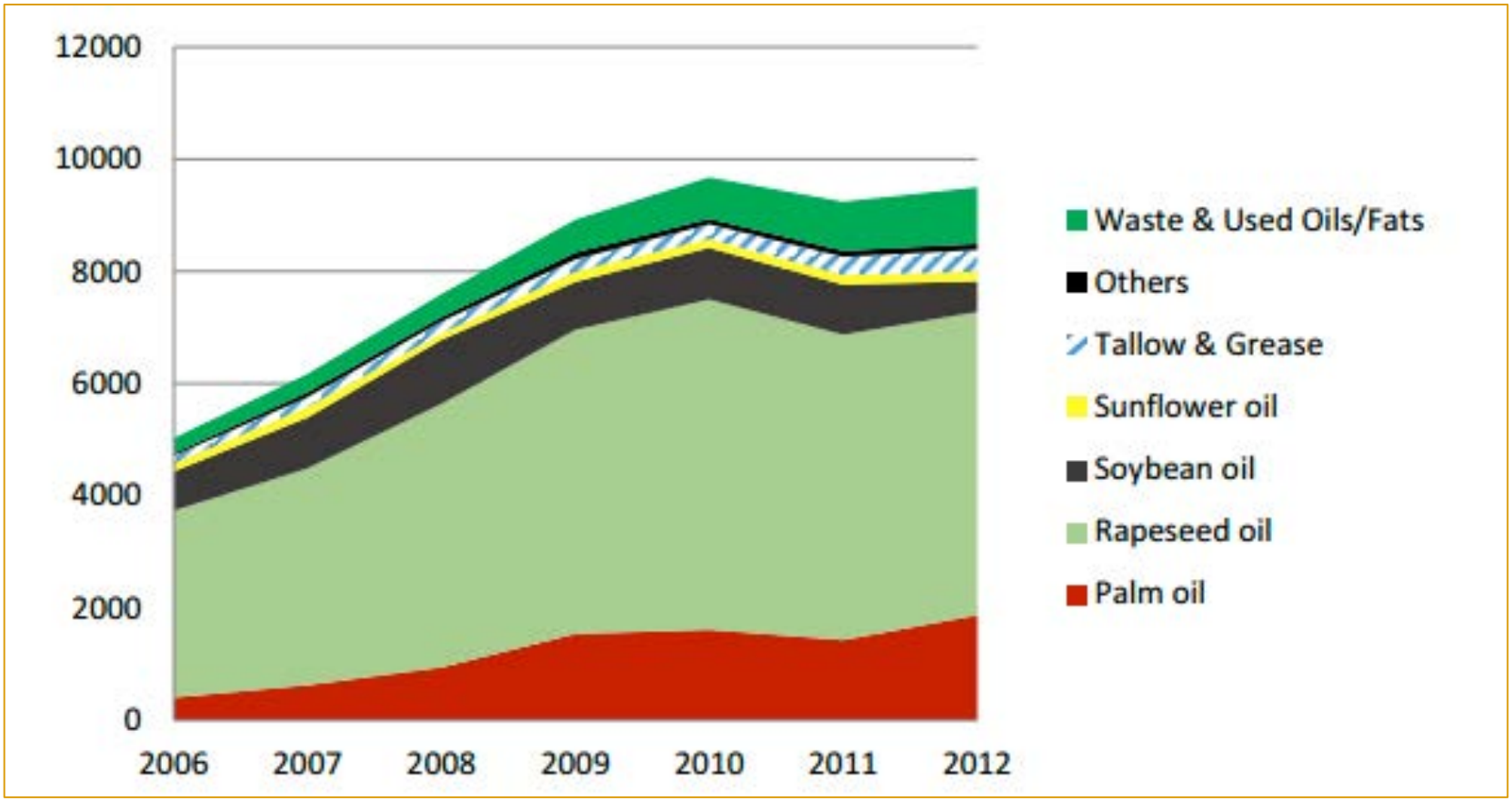


Palm oil use in the EU by sector

COUNTRY	BIODIESEL PRODUCTION			ELECTRICITY & HEAT GENERATION			OTHER USES: MAINLY FOOD, BUT ALSO PERSONAL CARE AND OLEO-CHEMICAL PRODUCTS			TOTAL		
	2006	2012	CHANGE	2006	2012	CHANGE	2006	2012	CHANGE	2006	2012	CHANGE
EU-27, including:	402	1869	+365%	420	590	+40%	3692	3925	+6%	4514	6384	+41%

- Food and oleo-chemical uses are still highest at 3.9 mln mt
- Biodiesel use is 2nd at 1.9 mln mt

Relative use of vegetable oils & fats in the EU-27 ('000 mt) [source:IISD]



Biodiesel in the EU-27

- **Palm oil competitiveness**: by far the most competitive vegetable oil for the production of biodiesel.
- **Rapeseed oil dominance**: high level of public support provided in EU
- **Palm oil in EU-biodiesel**: palm oil and now constitutes some 30 per cent of total palm oil use in the EU.
  - Under Directive 2009/28/EC, energy from renewable sources is required to reach 10 per cent of the total in the transport sector by 2020.
- Palm oil is affordable – significant player in increased use of biodiesel

Palm oil use by EU Member State and sector, 000 mt, 2012 est. [Europe-Economics]

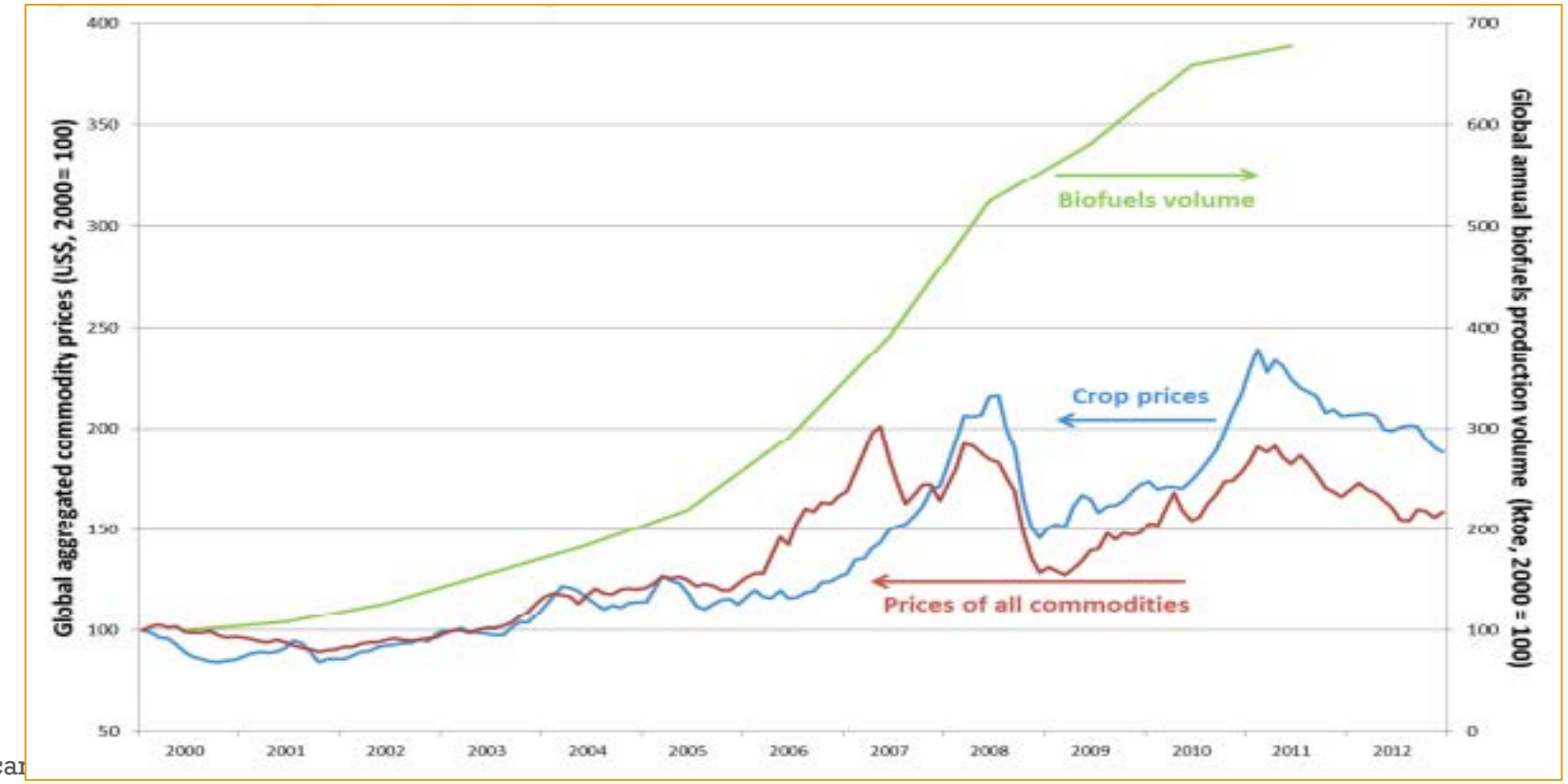
Member State	Biodiesel production	Electricity and heat generation	Other uses: mainly food but also personal care and oleochemical products	Total
EU27	1,869	590	3,925	6,384
Including:				
Netherlands	480	250	600	1,330
Italy	220	190	582	992
Germany	300	150	518	968
UK	38		574	612
Spain	200		355	555
France	110		295	405
Belgium	40		338	378
Finland	200		20	220
Poland	60		159	219
Denmark	9		127	136
Sweden	21		97	118
Portugal	50		26	76
Czech Republic	23		25	48
Austria	40		7	47
Hungary	18		3	21
Lithuania	5		7	12

Back to premise 1:

Source: World Bank

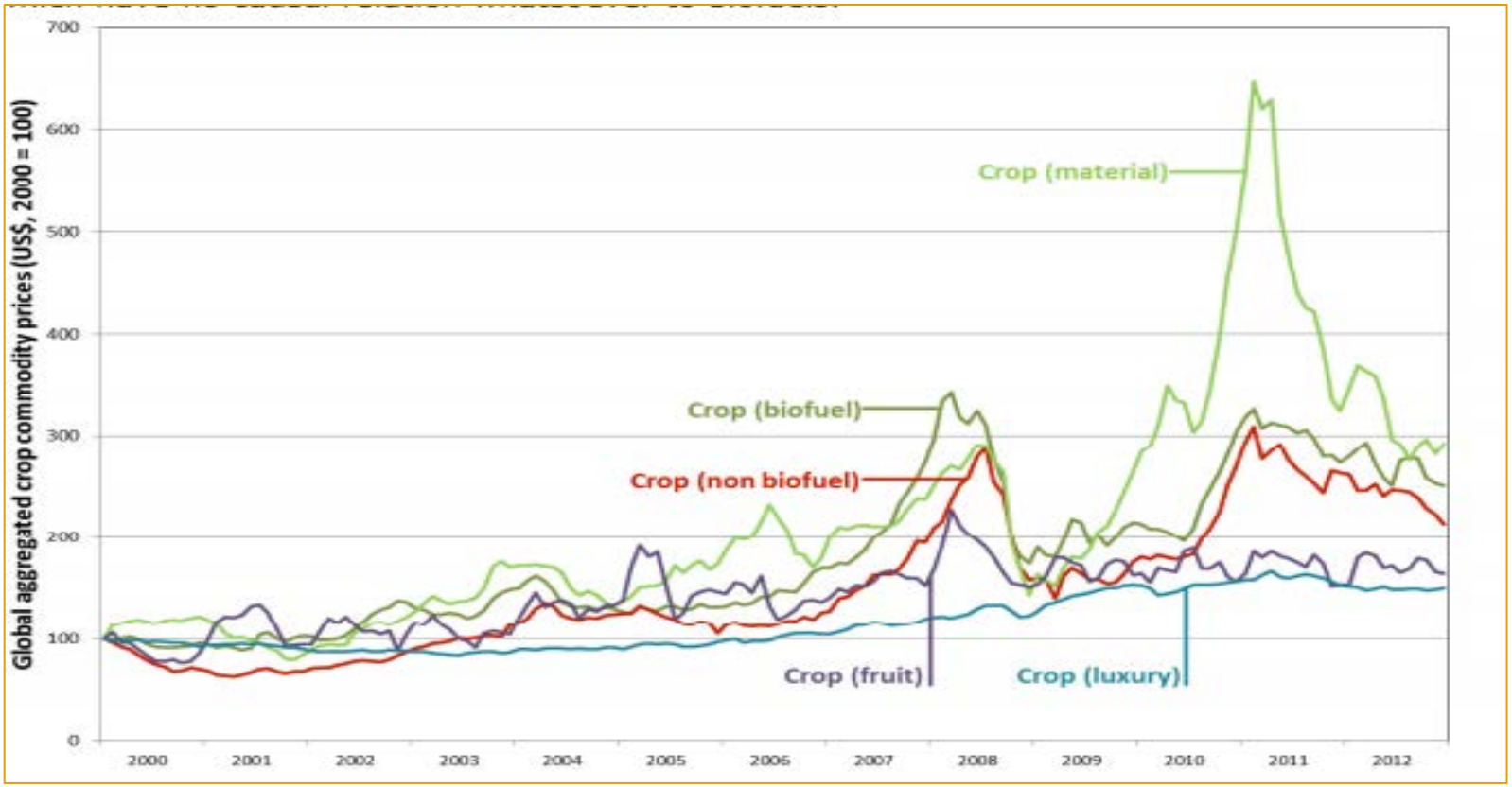
- The high use commodity leads price moves. - Increasing use of agric. commodities for biofuels automatically leads to crop shortages and higher food commodity prices..

Global crop commodity prices and the aggregated price of all commodities, versus global biofuels production volume, both normalised.

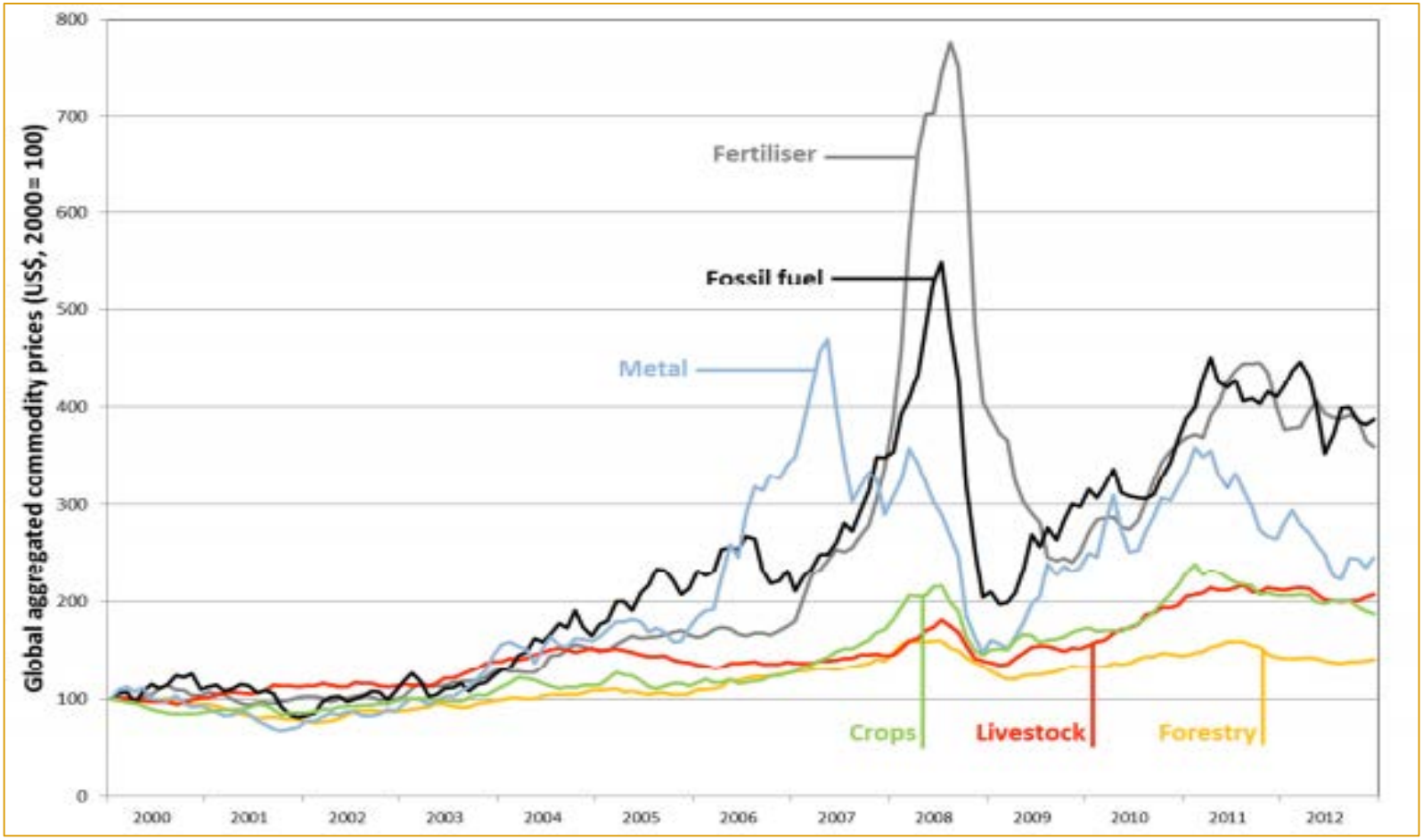


Global crop commodity prices split into subcategories

[Source: Ecofys]



Global aggregated commodity prices - compares the development of crop commodity prices with other commodities [Source: Ecofys]



Have EU biofuel demand been significant relative to world production?

[Source: Ecofys, 2013]

	Biofuel (ktoe)	Feedstock to biofuel (ktonne)	Global feedstock production (ktonne)	Fraction of feedstock to biofuels
Bioethanol	**2,480**			
Wheat	*623*	*1,747*	*653,355*	*0.3%*
Maize	*490*	*1,205*	*850,445*	*0.1%*
Sugar beet	*735*	*2,517*	*228,748*	*1.1%*
Sugar cane	*336*	*2,023*	*1,694,505*	*0.1%*
Other	*296*			
Biodiesel	**9,922**			
Rapeseed	*4,751*	*7,621*	*60,283*	*12.6%*
Soybean	*2,220*	*3,998*	*264,973*	*1.5%*
Oil palm fruit	*1,043*	*3,337*	*225,743*	*1.5%*
Sunflower seeds	*444*	*712*	*31,029*	*2.3%*
Other	*1,465*			

Biofuels as driver for increased crop production for palm oil?

Some practical thoughts:

- Difficult as need almost 10 yrs lead time from investment dec'n to crop production
- Increased demand for palm oil by the 2012 biofuels mkt was not foreseen 10 yrs prior
- Only ~**4.4%** of the palm oil prod'n growth from 2003-2010 ended up in EU biodiesel

Biofuels as driver for increased crop production SBN's & RS

- SBN: Only ~ **5.4%** of the SBN production growth from 2003-2010 ended up in EU biodiesel
- Not likely significant driver to SBN growth

- Rapeseed: **32% of crop** increase went to EU biofuels!
- **Biofuels are driving extra rapeseed production**

Global vegetable oils -food/ nf use

	Total	Food	Non-food	%nf
1999/00	82.9	74.2	8.7	10.5
2000/01	88.8	78.6	10.2	11.5
2001/02	91.1	80.2	10.9	12
2002/03	95.1	82.9	12.2	12.8
2003/04	100.7	86.9	13.8	13.7
2004/05	108.2	91.5	16.7	15.4
2005/06	114.7	94.2	20.5	17.9
2006/07	119.4	95.9	23.5	19.7
2007/08	125.1	98.8	26.3	21
2008/09	129.7	101.4	28.3	21.8
2009/10	137.8	106.4	31.4	22.8
2010/11	144.6	110.9	33.7	23.3
2011/12	150	114.2	35.8	23.9

	Total	Food	Non-food				
			Total	Palm	Rape	Soya	Other
SE Asia	18.5	9.3	8.9	5.5	0	0	3.4
Middle Ea	4.9	4.6	0.3	0.2	0	0.1	0
EU-27	23.5	12.4	10.8	2.2	7	0.9	0.7
China	29.2	26.6	2.6	2.1	0	0	0.5
India	16.9	16.2	0.7	0.3	0	0	0.4
USA	12.8						
Other	44.2						
Total	150	114.2	35.8	13.4	7.3		

Premise 1: appears weak Premise 2?

There are other factors that increase vegetable oil prices

Causality

Other factors that increase vegetable oil prices

Factor	Sub-factors

Low stocks	• Global market integration reduces the need for domestic stocks
	• Demand growth exceeding production increase
	• Lagging investments in agriculture
	  ○ Low commodity prices in earlier years
	  ○ Commodity prices below costs (dumping)
	• Yield gap
	• Food waste

Decreased supply	• Harvest failures (droughts and floods) • Decrease in subsidized exports and food aid
Increasing demand	• Population and diet, obesity and luxury • Importer policies (hoarding) • Rapid expansion of biofuels • (Future: biobased economy)
Increased production costs	• Oil and gas price • Fertiliser
Market dynamics	• Speculation • Trade restrictions (export bans, stockpiling) • Currency exchange rates (weak dollar)

Main factors

If declining stocks → increased risk of price spikes

- Trade liberalization: lowers need to keep national stocks and demotivates stockpiling
- Improvements in infrastructure lead to lower stocks

If increasing demand → pressure on prices

- Higher caloric intake per person
- Crops for biofuels put additional pressure on supply
  - Directly when tap into existing supply
  - Indirectly when claiming land that now no longer is available for food production

Main factors cont'd

If increasing production costs → upward pressure on prices

- High crude oil prices: increase cost food production
- High natural gas prices: increase fertilizer costs

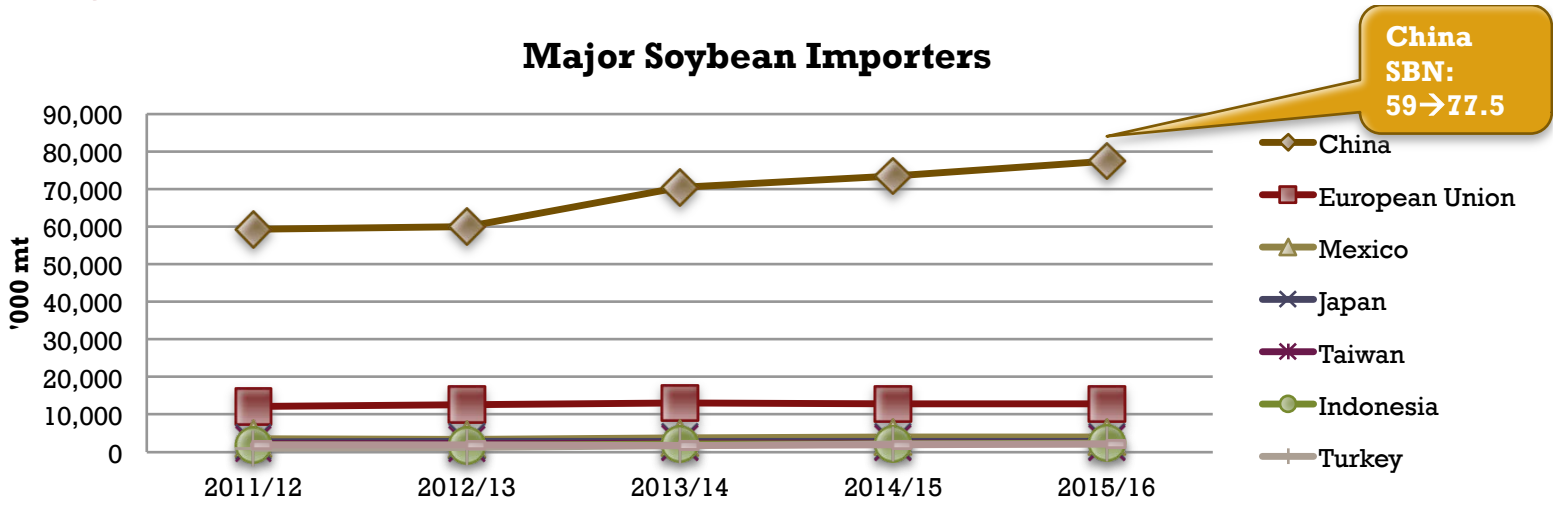
Market dynamics → pressure on price

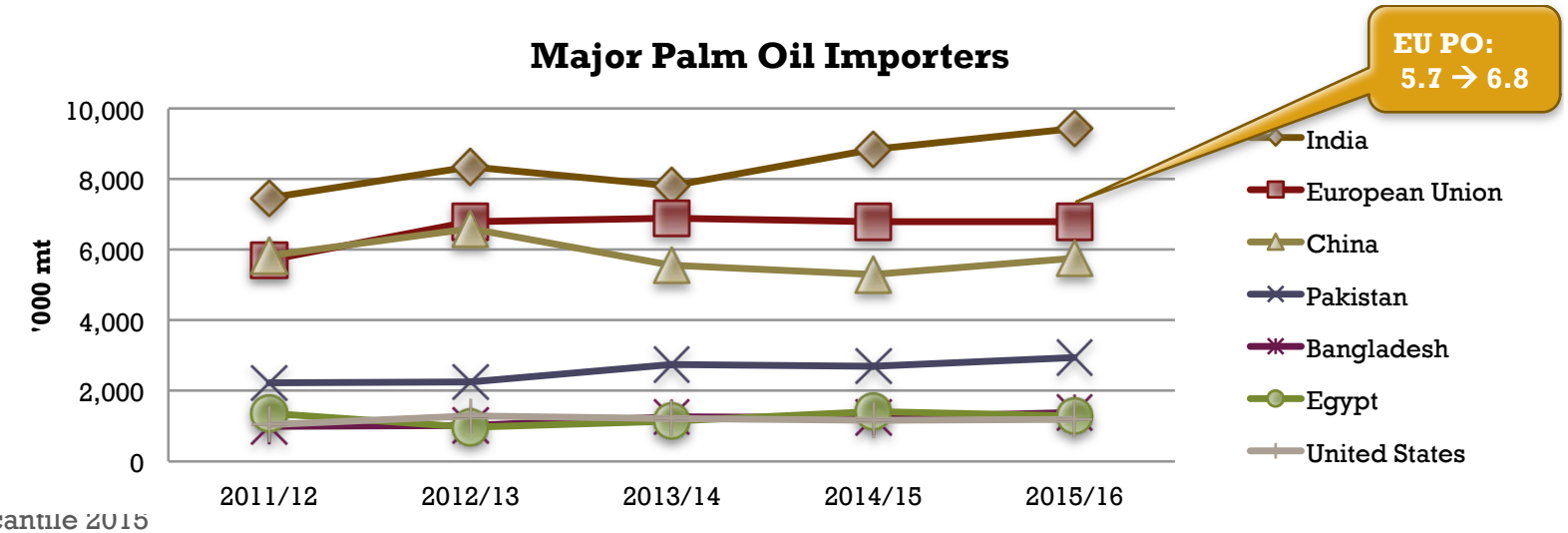
- Increased speculative activity (inconclusive)
- Hoarding as response to price increases (ex. 2007/'08)
- Biofuels could reduce price volatility by creating predictable feedstock demand in certain price bandwidths

Relative size of imports: SBN & PO

SBN: global **93 mln mt** 11/12 → **120 mln mt** 15/16

PO: global **39 mln mt** 11/12 → **45 mln mt** 15/16





Future PO usage in N. America?

Agriweek, June 29/15

- US Food & Drug Admin'n, June 25/'15: issued **mandate** requiring the **removal of trans-fat in the form of partially hydrogenated oils from all foods by June 30/'18.**
  - **FDA said health measure would save $140 byn health costs over 20 yrs**
- Health Canada regulations limit trans-fat to 2% in vegetable oil & margarine and 5% in all other foods
- FDA mandate requires removal of all partially hydrogenated oils (PHO's) from foods
  - Tropical oils (palm, coconut) can be used without hydrogenation in a ltd. range of products
- → **substantial opportunity canola oil?**

A trader's view: 3 oil quality categories in the mkt.

- Premium oil - high price (ex. Pumpkin seed oil)
- General vegetable oil – 'accepted vegetable oils' (ex. Canola, sunflower, soybean oil)
  - Compete with each other (see sunflower-canola-soybean values)
- Industrial oils – 'poorer' vegetable oils; cheap & easy manufacturing use (palm oil)
  - All vegetable oils can fit this category, if there are big surpluses

Component values

canola November 2015 compared to soybeans

Current Nov 2015 Canola value compared to soybeans	Valu	futs per tonne	CrushYield	soymeal	Canola product ratio
soyameal Dec futures		$343.90	80.00%	$275.12	
Canola meal valu compare 48% SBM	65%	$223.54	58.00%		$129.65
	Futures				
soyoil Dec futures	$0.3392	$747.80	18.00%	$134.60	
canola oil		$747.80	43.60%		$326.04
Gross value				$409.72	$455.69
Newcrop Product premium canola over soybeans					1.1122
Current Mkt premium canola over beans					1.14823
Ratio canola over/under valued agst. Soybeans					3.60%

	Futs	FOB Prems	Usfmt	Ratio Soya/cano
Beans fob Pacific North West	$10.30	$0.95	$413.48	1.1482
Canola fob Vancouver	$532.50	$65.00	$474.77	
Exchange Cdn. Dollar		$0.79460		variables

Board Crush margin	product value Canola	Soybean
meal		$275.12
meal	$129.65	
oil		$134.60
oil	$326.04	
total	$455.69	$409.72
Minus seed cost	$423.12	$378.57
*Crush margin USFMT	$32.57	$31.16
Per Bushel	$0.74	$0.85
Oil Share		35.56%
*crush margin$C	$40.99	
ce Mercantile		03-07-2015

Foreign exchange

Ratio canola vs. SBN's

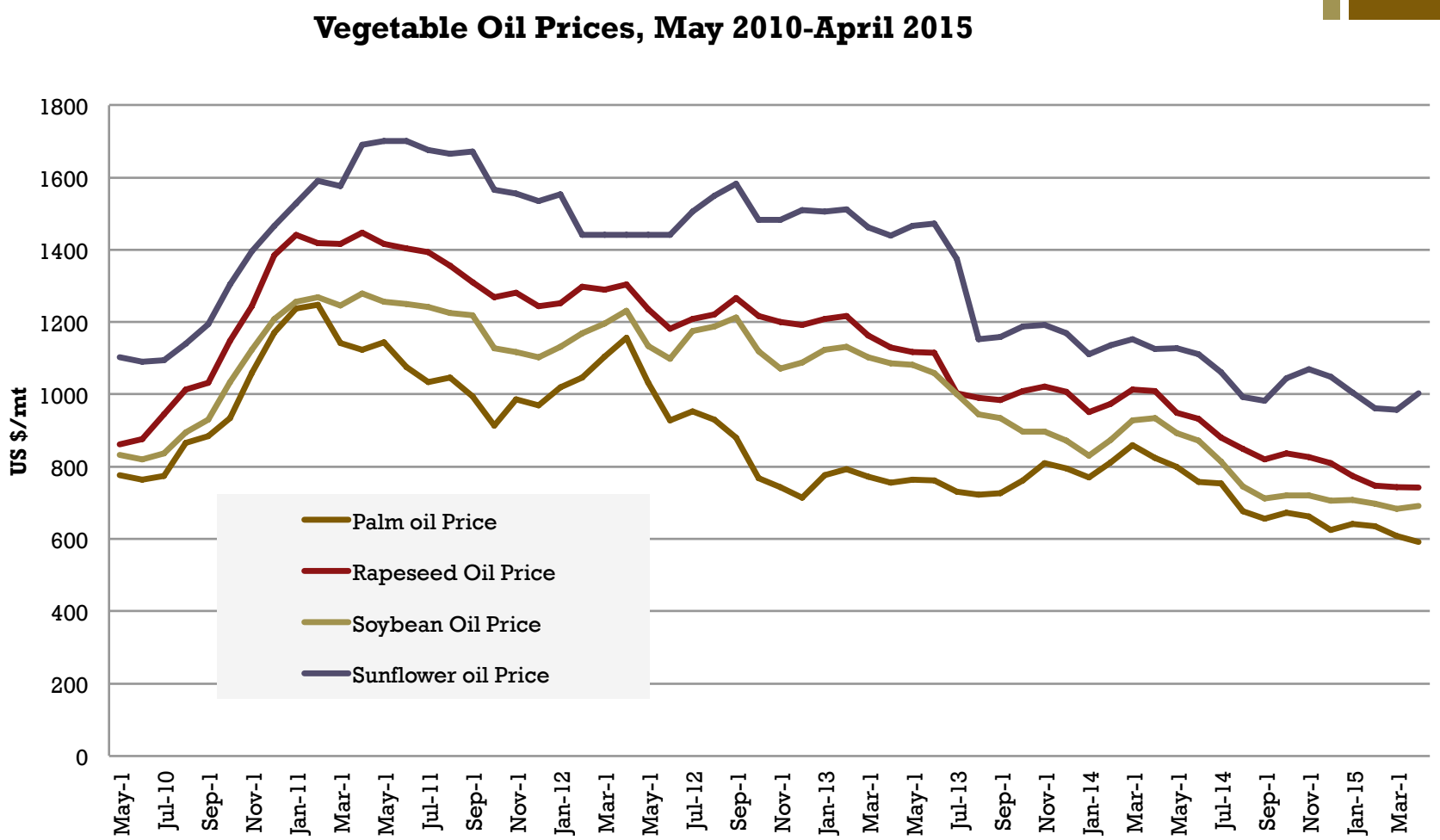
Basics of cause & effect

Main points

- If shortage of palm oil can push prices up
  - move limited by other sources of energy
- If surplus of palm oil does not necessarily effect other veg oils unless they also in surplus.
- If palm oil too abundant → major discount to SBO develops because PO will not move into the same vegetable oil channels
- Other veg oils can widen their premium to palm oil on shortages

Vegetable oil prices

source: World Bank



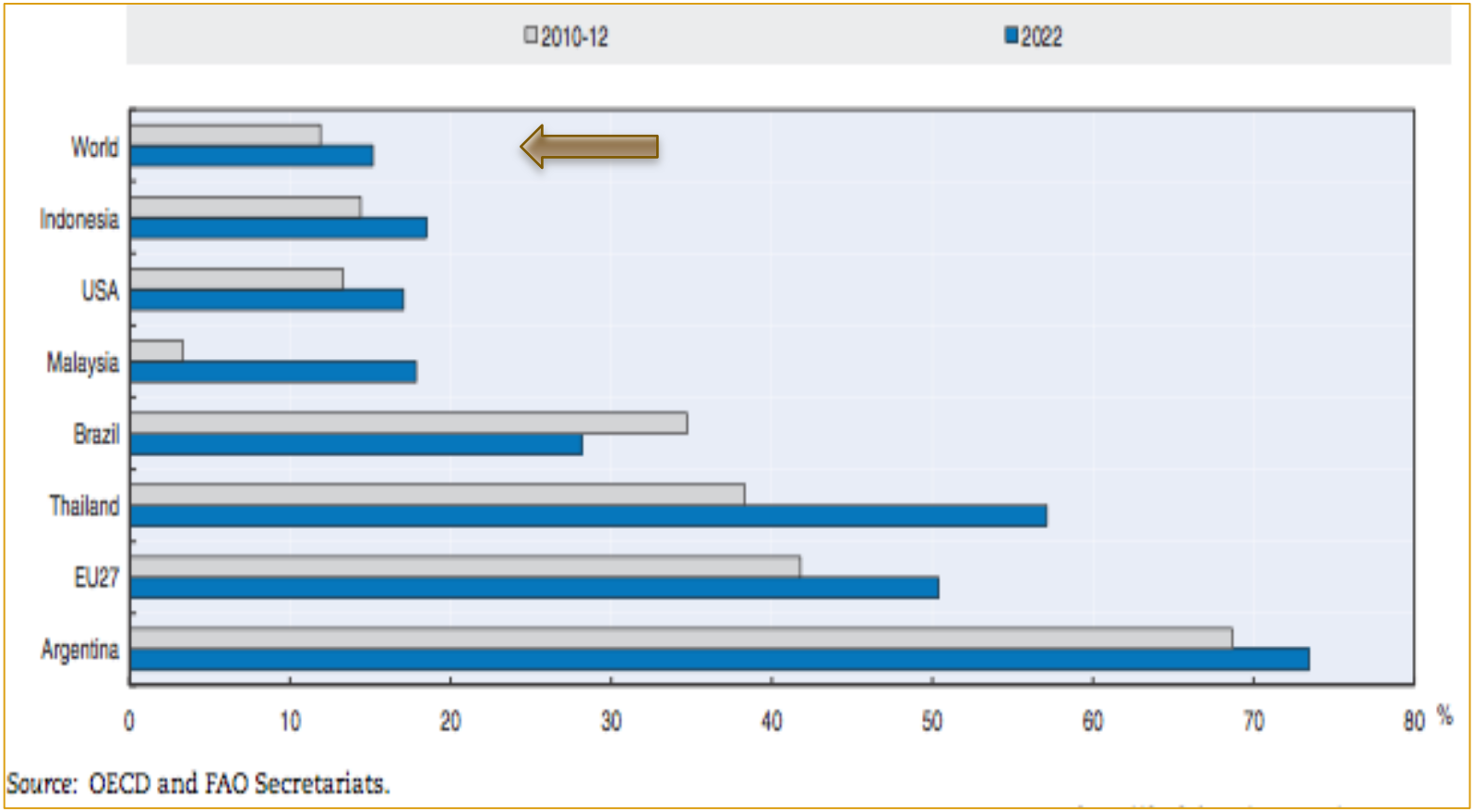
Veg. Oil Forecast-FAO 2013/14 to 2022/23

		Average 2010/11-2012/13est	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
VEGETABLE OILS (marketing year)												
World												
Production	mt	156.2	163.3	166.9	170.9	174.3	177.5	181.2	184.6	188.3	192.1	195.7
Of which palm oil	mt	52.1	55.7	56.9	58.2	59.4	60.6	61.9	63.1	64.4	65.6	66.9
Consumption	mt	154.9	163.7	167.9	170.6	174.9	178.3	181.8	185.3	189.0	192.6	196.2
Food	mt	108.4	133.6	137.0	138.6	141.2	143.4	145.8	148.1	150.5	153.2	156.0
Biofuel	mt	19.4	21.0	21.5	22.5	24.0	25.1	26.2	27.1	28.4	29.1	29.7
Exports	mt	41.8	65.6	66.0	67.5	68.5	70.1	71.5	73.1	74.7	76.0	77.3
Closing stocks	mt	21.3	22.1	22.0	23.1	23.5	23.6	23.8	24.1	24.3	24.7	25.0
Price[5]	USD/t	1 206.6	1 141.4	1 038.3	1 077.6	1 065.2	1 097.7	1 104.9	1 117.6	1 136.1	1 154.6	1 160.3

Prod'n: 20% (+40 mmt); Cons'n: 27% (+41 mmt)
of which Food: 44% (+48 mmt); BD: 53% (+10 mmt)
Prices: <2% (+ $19/mt) = flat

Forecast

Biodiesel use as share of vegetable oil production



Source: OECD and FAO Secretariats.

Main points/ summary:

Drivers of vegetable oil prices are multi-faceted and very complex:

- Vegetable oil production (majors) **doubled** since 2000/'01
  - PO increased the most
- Vegetable oil consumption increased **2.5 fold**
- PO production & exports increased relatively more than that of other oils, but SBN seed exports much bigger than PO exports (120 mln mt, 45 mln mt)
- Biofuel production increased from ~11 bln litres (2000) to ~75 bln litres (2012); flat since then
- EU use of PO increased by ~40% since 2006, but use of PO for the non-energy sector is still > than 2x that of biodiesel

Main points cont'd

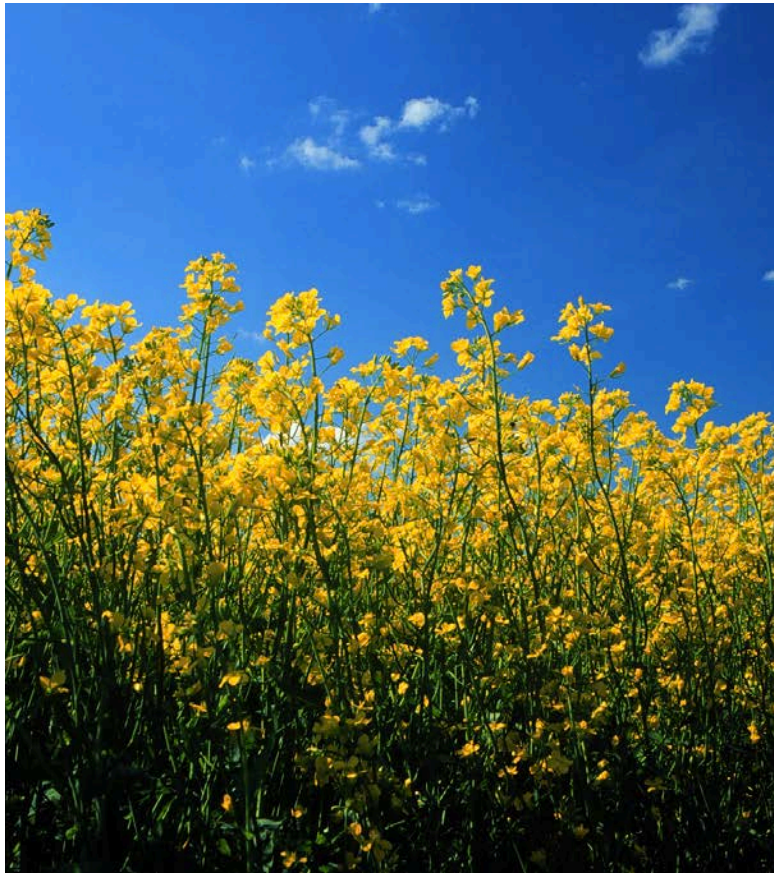
- Overall perspective: ~ 4.4% of PO production growth ended up in EU biodiesel (2003-2010)
  - 32% of RS went into EU biofuels
- Growth in vegetable oil production has kept pace with biodiesel requirements & increased food requirements
- *Main 'fundamental factors' and oil quality perception seem to drive price spikes and price relationships rather than biofuels, especially since 2010*

Main points cont'd

Looking forward:

- There are questions re. the future use of PO use in N. America (US mandate June 25/'15) – **opportunity RSO**
- **FAO forecast vegetable oils to 2022/23:**
  - **Production up by 20%**
  - **Consumption up by 27%**
    - **Of which:**
    - **48 mln mt for food**
    - **10 mln mt for biodiesel**
  - **Price: flat**

Thank you for your attention.



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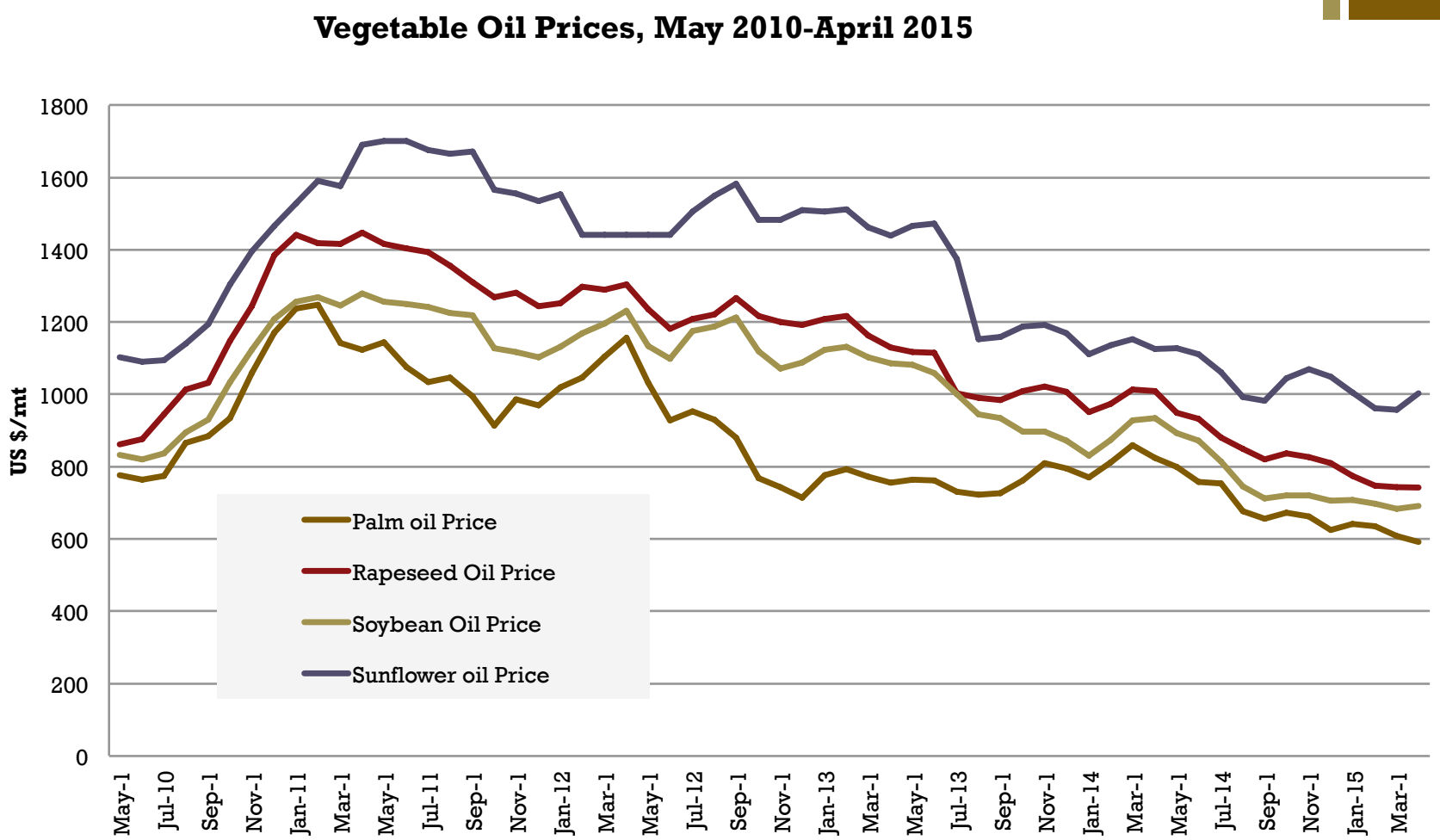
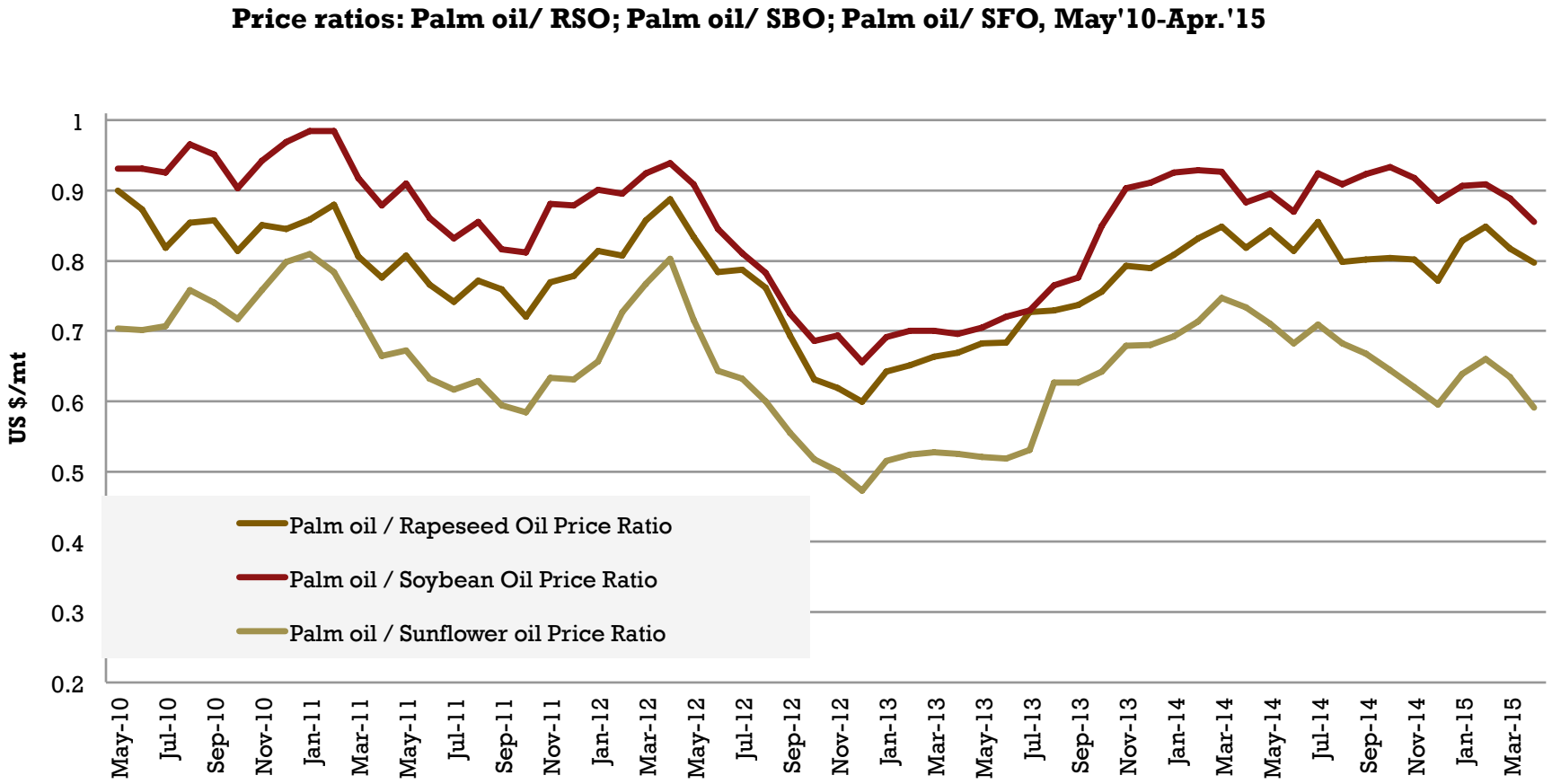
Vegetable oil prices

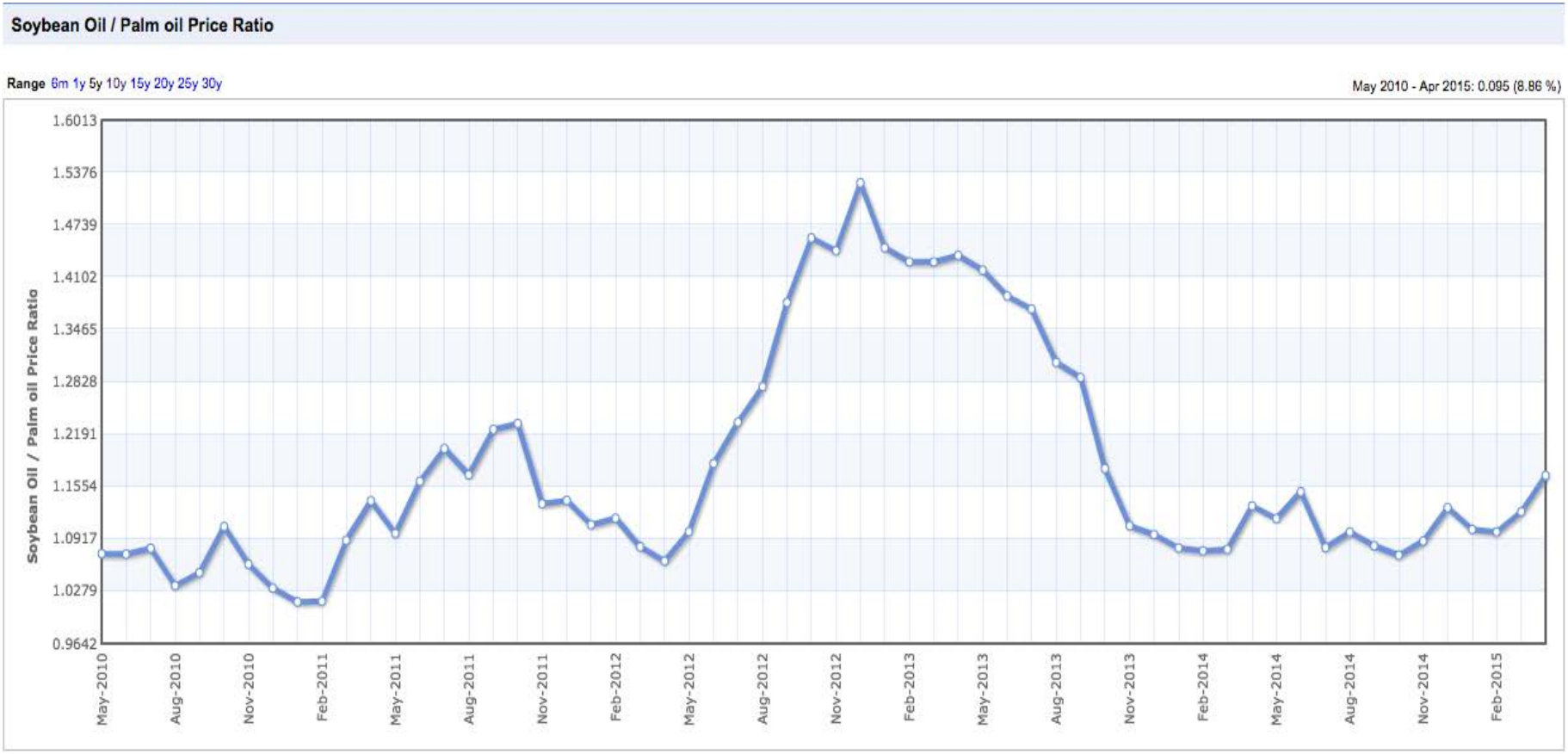
source: World Bank



Price ratios

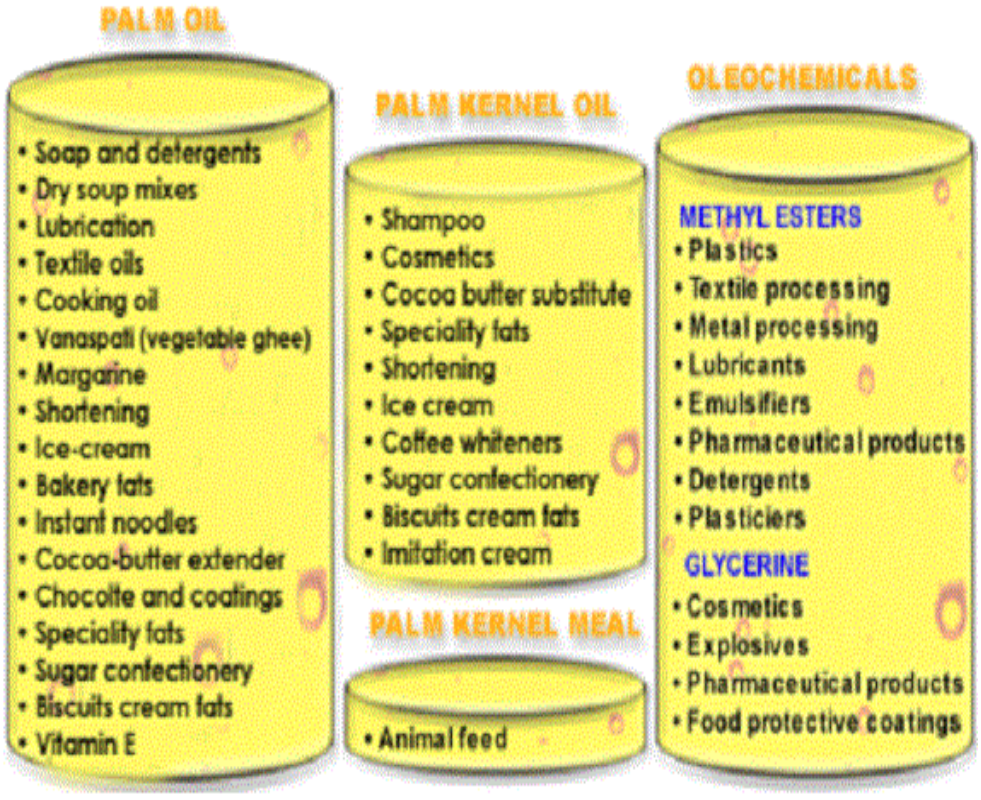


Price relationships – SBO/Palm oil

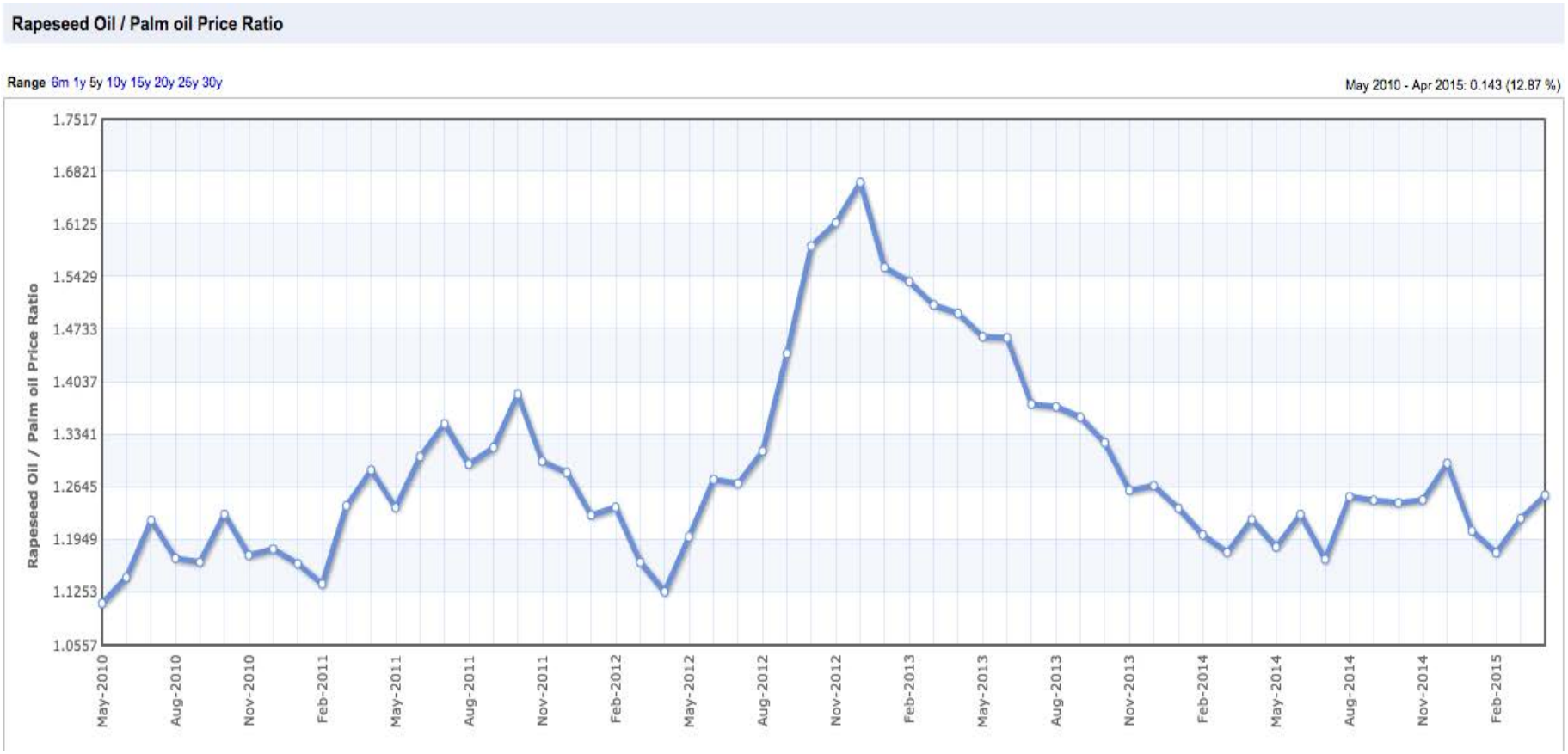


Prices – what drives vegetable oil prices

- **3 main categories:**
  - Premium oil for edible purposes
  - Food (Cooking & salad oil, animal feed, margarine, shortening)
  - Industrial products (oleochemical, bio-diesel)

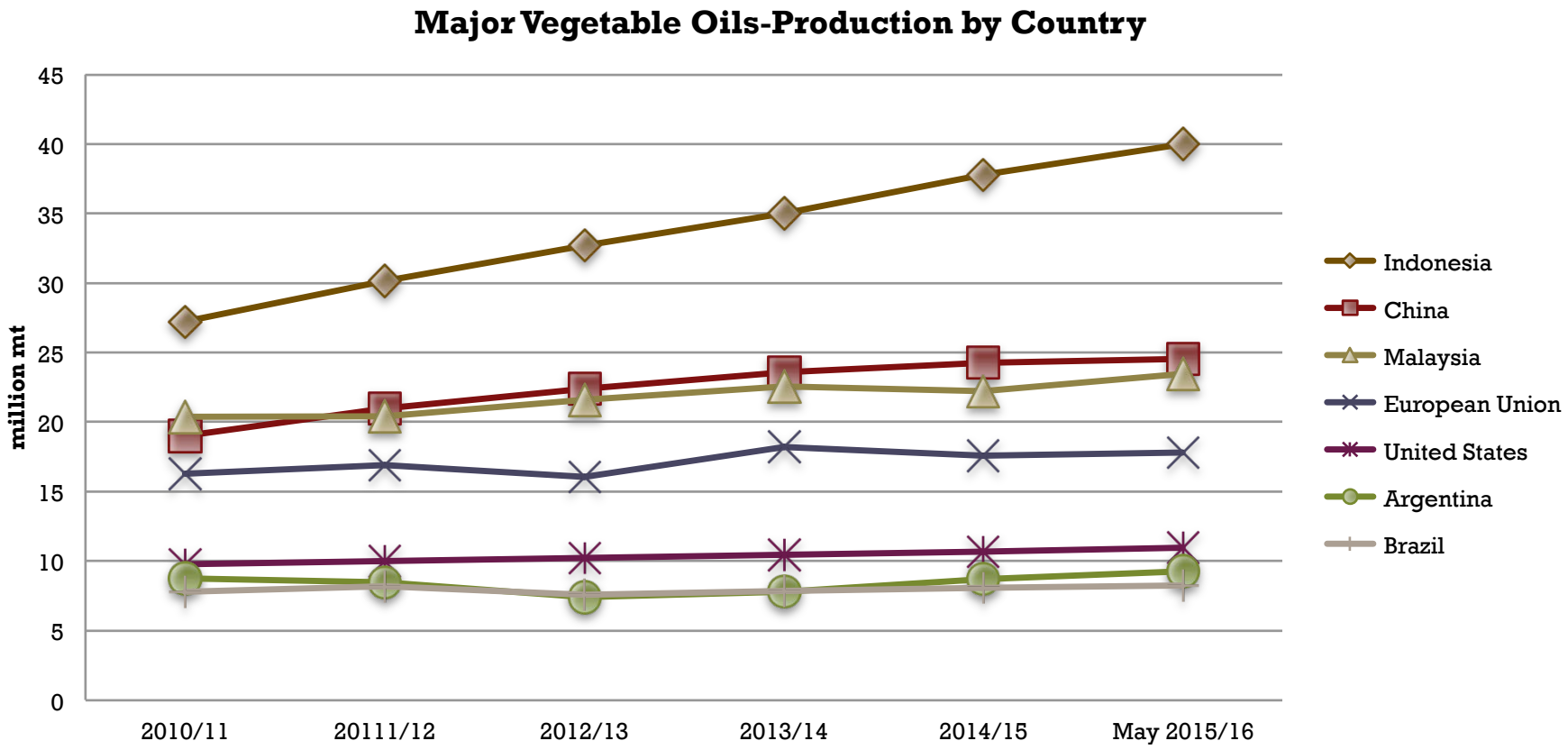


RSO/ Palm oil


Rapeseed Oil / Palm oil Price Ratio
Range 6m 1y 5y 10y 15y 20y 25y 30y
May 2010 - Apr 2015: 0.143 (12.87 %)
Rapeseed Oil / Palm oil Price Ratio
1.7517
1.6821
1.6125
1.5429
1.4733
1.4037
1.3341
1.2645
1.1949
1.1253
1.0557
May-2010
Aug-2010
Nov-2010
Feb-2011
May-2011
Aug-2011
Nov-2011
Feb-2012
May-2012
Aug-2012
Nov-2012
Feb-2013
May-2013
Aug-2013
Nov-2013
Feb-2014
May-2014
Aug-2014
Nov-2014
Feb-2015

- Ind. vs edible use veget. Oils
- Growth biofuels & proj'ns
- Drivers for each veget oil? – px implications?

The players - **producers**



EU example

- The European Union (EU) imported over 9 million tonnes of palm oil and palm kernel meal in 2012.
- Palm oil is a part of a complex supply chain as it is used in the production of a wide variety of products –from biscuits to eye shadow to biodiesel. It is used by major European firms such as BASF (Germany), Ferrero (Italy), Tesco (UK) and L'Oréal (France), but also by many SMEs in a broad range of sectors.