



INTERNATIONAL COCOA ORGANIZATION



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Market concentration and vertical integration

London, 22 September 2015

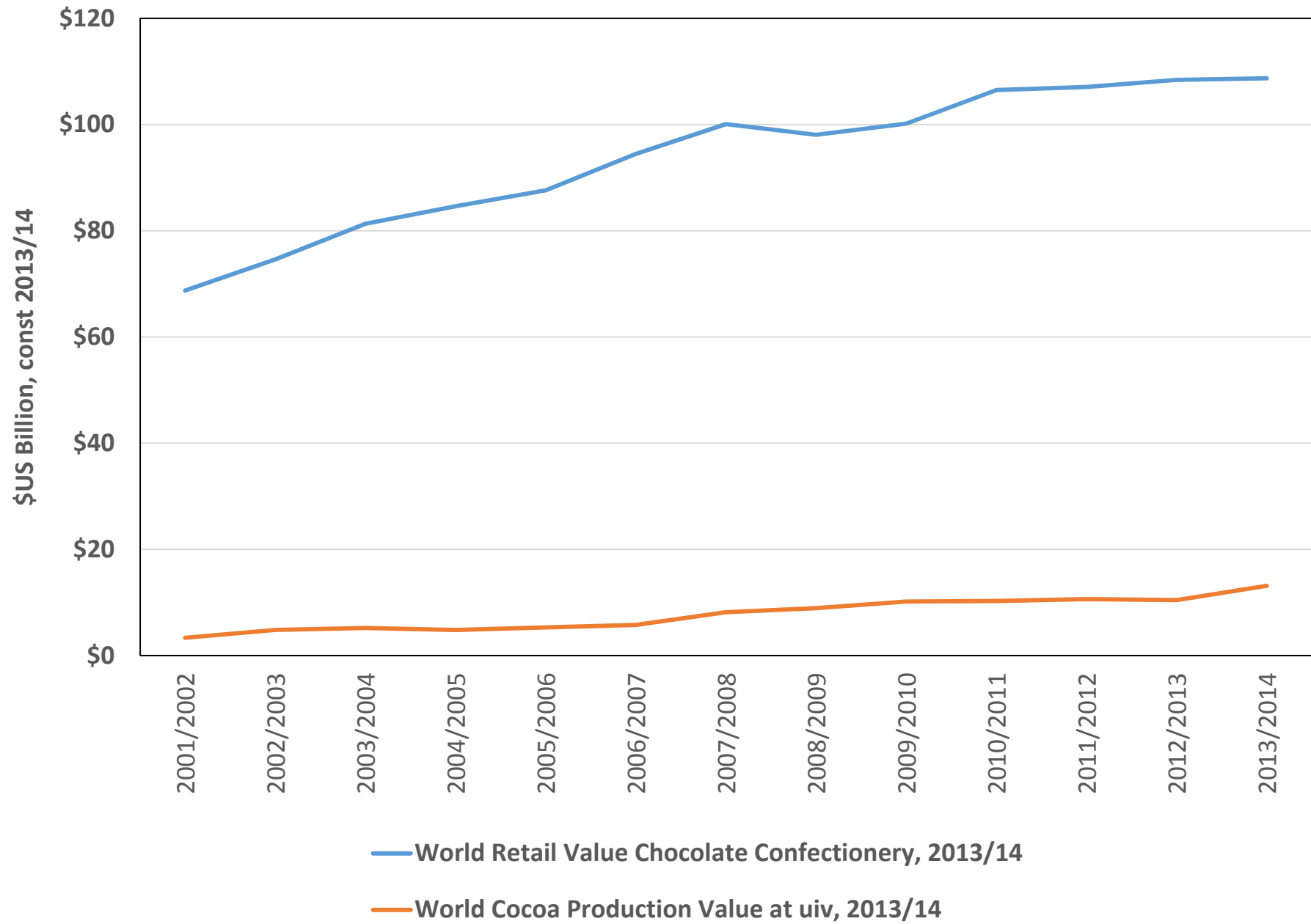


Outlines

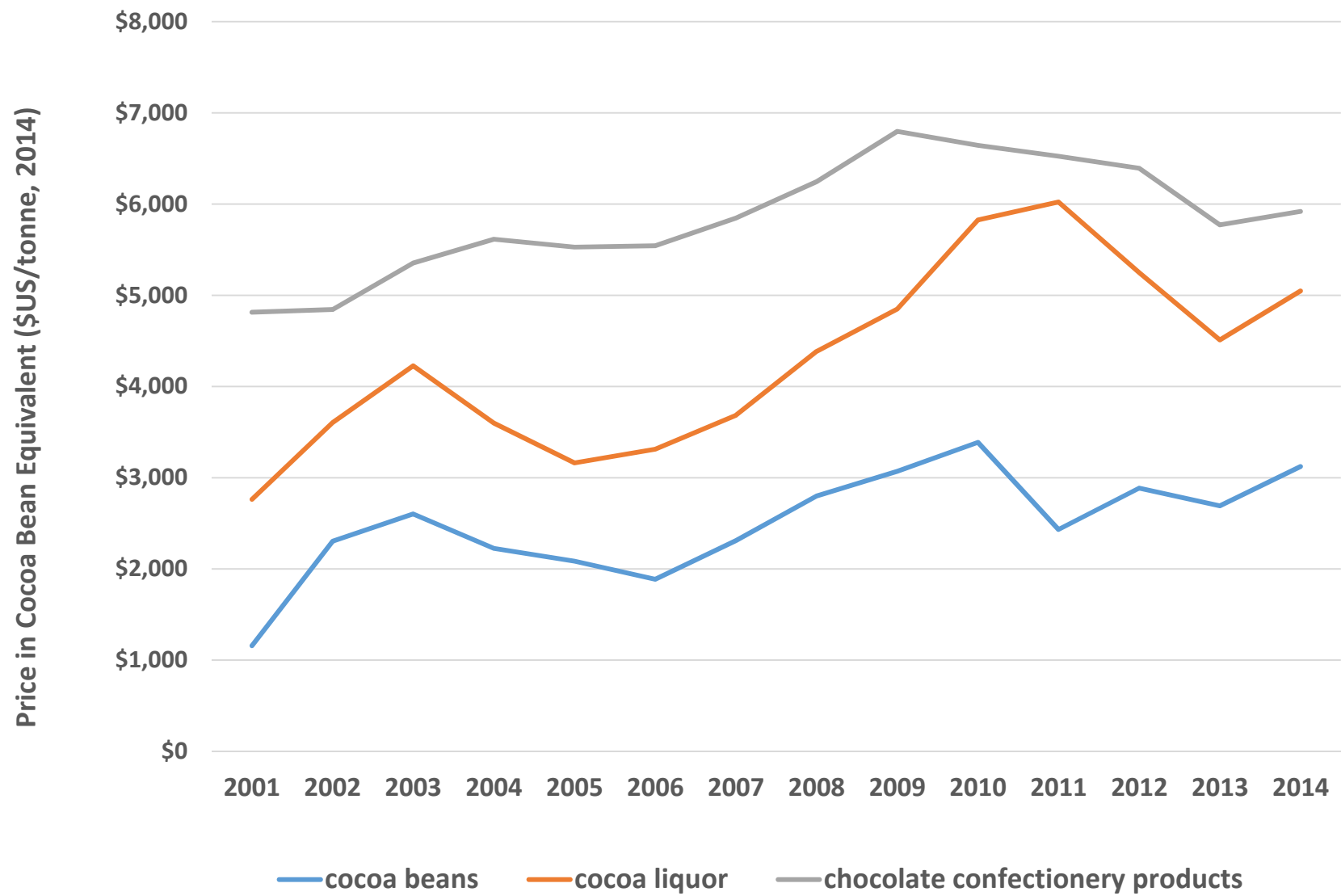
- 1. Value added by the global cocoa chain**
- 2. Level of market concentration in the cocoa sector**
- 3. Degree of asymmetry in the transmission of prices along the UK and US chains**
- 4. Concluding remarks**



Value Added by the global cocoa chain



Source: Euromonitor, Global Trade Information Services, ICCO



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Level of market concentration in the cocoa sector

Retailers

Chocolate Manufacturing



Cocoa Grindings

Cocoa Trading

○

Cocoa Farming

Brand-name Chocolate Manufacturers

who control in-house product definition and innovation as well as the related marketing function



Merchant Contractors

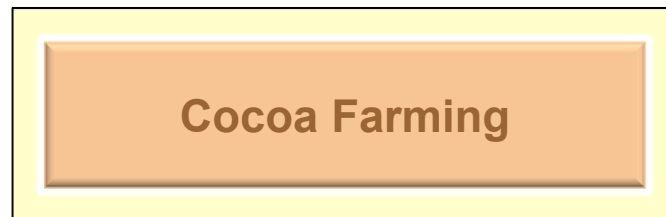
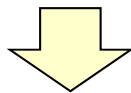
who manufacture semi-finished and finished cocoa products in accordance with the specifications of the *brand-name firms*

Market Concentration \Rightarrow Economic Inefficiencies

A consolidated industry might price its products & services to a level lower than otherwise would be the case

A vertical integrated enterprises are expected to lower their overall mark-up because of its double marginalization

The structure of the global cocoa chain raises concerns



High Barrier to Entries

High Barrier to Entries

Potential for the exercise of oligopolistic or monopolistic power in cocoa purchasing

Do cocoa stakeholders share the same bargaining power?

If cocoa stakeholders share the same bargaining power, then we will observe a symmetric transmission of price changes in the supply chain

Testing the hypothesis of symmetric price transmission

1. Model the price change in the upstream process $\Delta P_t^{Upstream}$ as a function of the positive and negative price variations occurring in the downstream process, $\Delta P_t^{Downstream(+)}$ and $\Delta P_t^{Downstream(-)}$, respectively

$$\Delta P_t^{Upstream} \approx a \times \Delta P_t^{Downstream(+)} + b \times \Delta P_t^{Downstream(-)}$$

2. If the estimated coefficients are statically equal, $a = b$, then we are in presence of a symmetric transmission.

UK Cocoa Supply Chain

UK Cocoa Supply Chain

 P_t^R

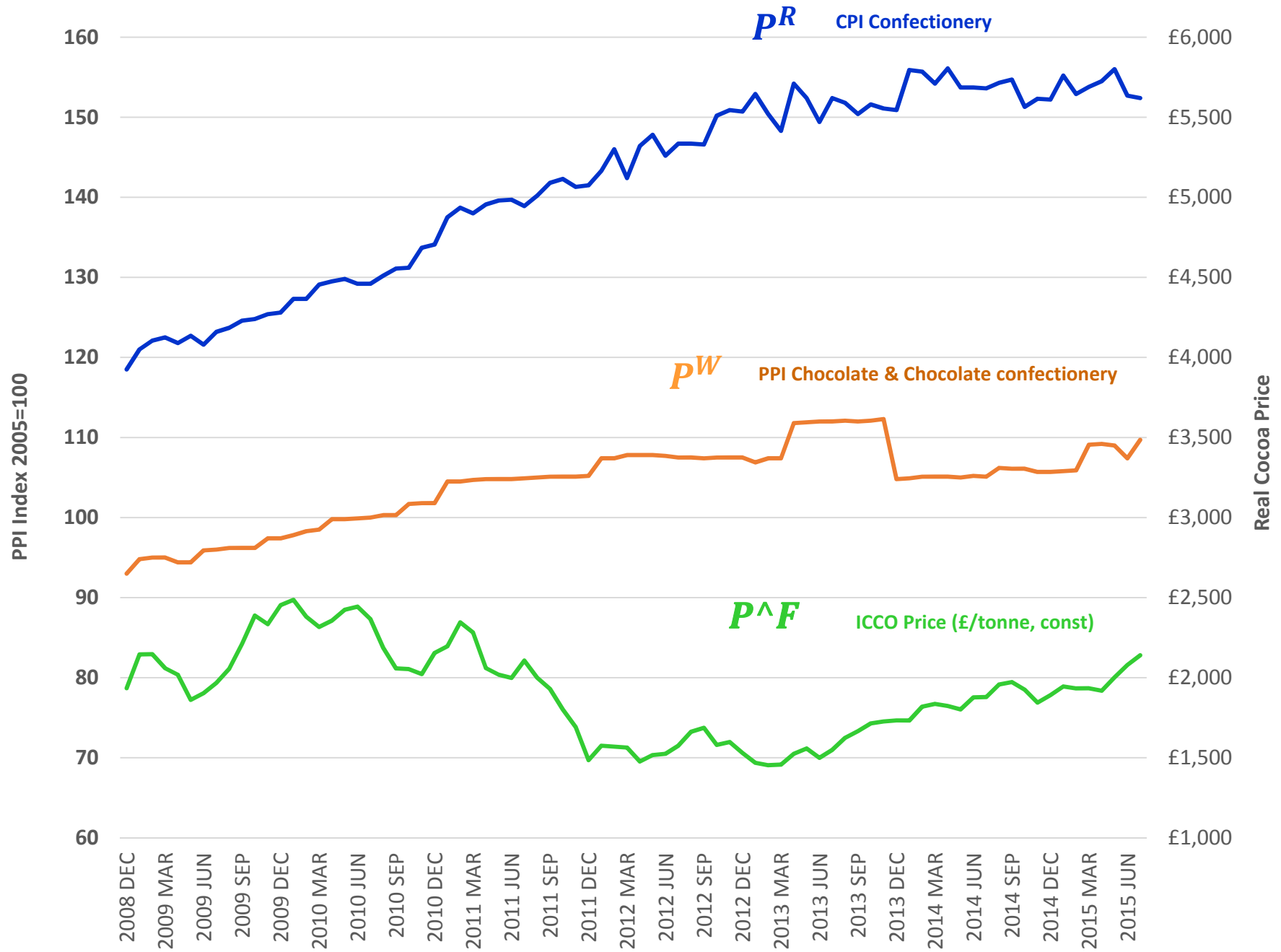
CPI Sugar, Jam, Honey, Syrup, Chocolate & Confectionery, monthly, UK Office National Statistics

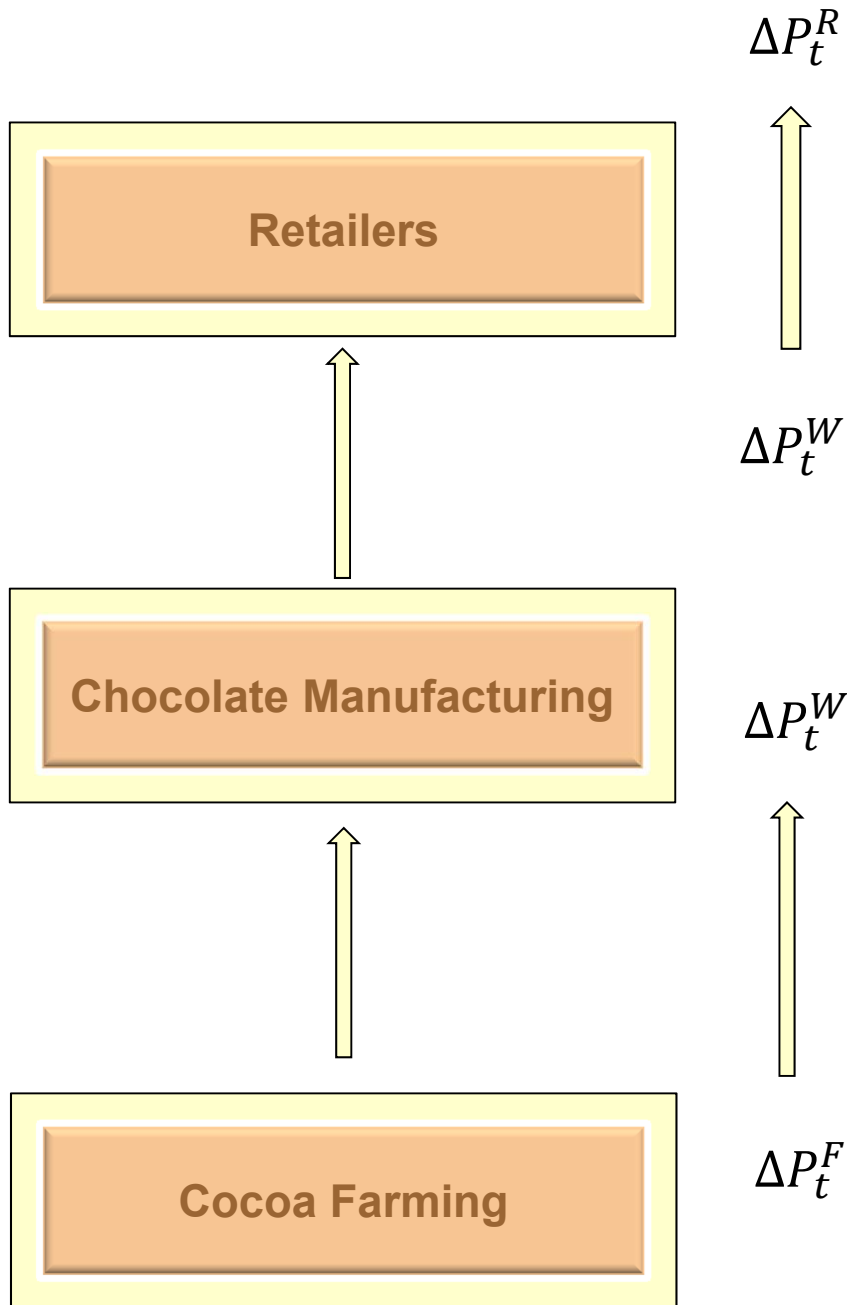
 P_t^W

PPI 1082220000: Chocolate & Food Preparations containing Cocoa (except sweetened), monthly, UK Office National Statistics

 P_t^F

ICCO nominal price (£/tonne), monthly, ICCO, deflated by CPI All Item Index, UK Office National Statistics





$$\Delta P_t^R \approx +0.330 \times \Delta P_{t-1}^{W+} - 0.051 \times \Delta P_{t-1}^{W-}$$

*(0.173)**
(0.147)

$$\Delta P_t^W \approx -0.046 \times \Delta P_{t-4}^{F+} - 0.006 \times \Delta P_{t-4}^{F-}$$

(0.069)
(0.062)

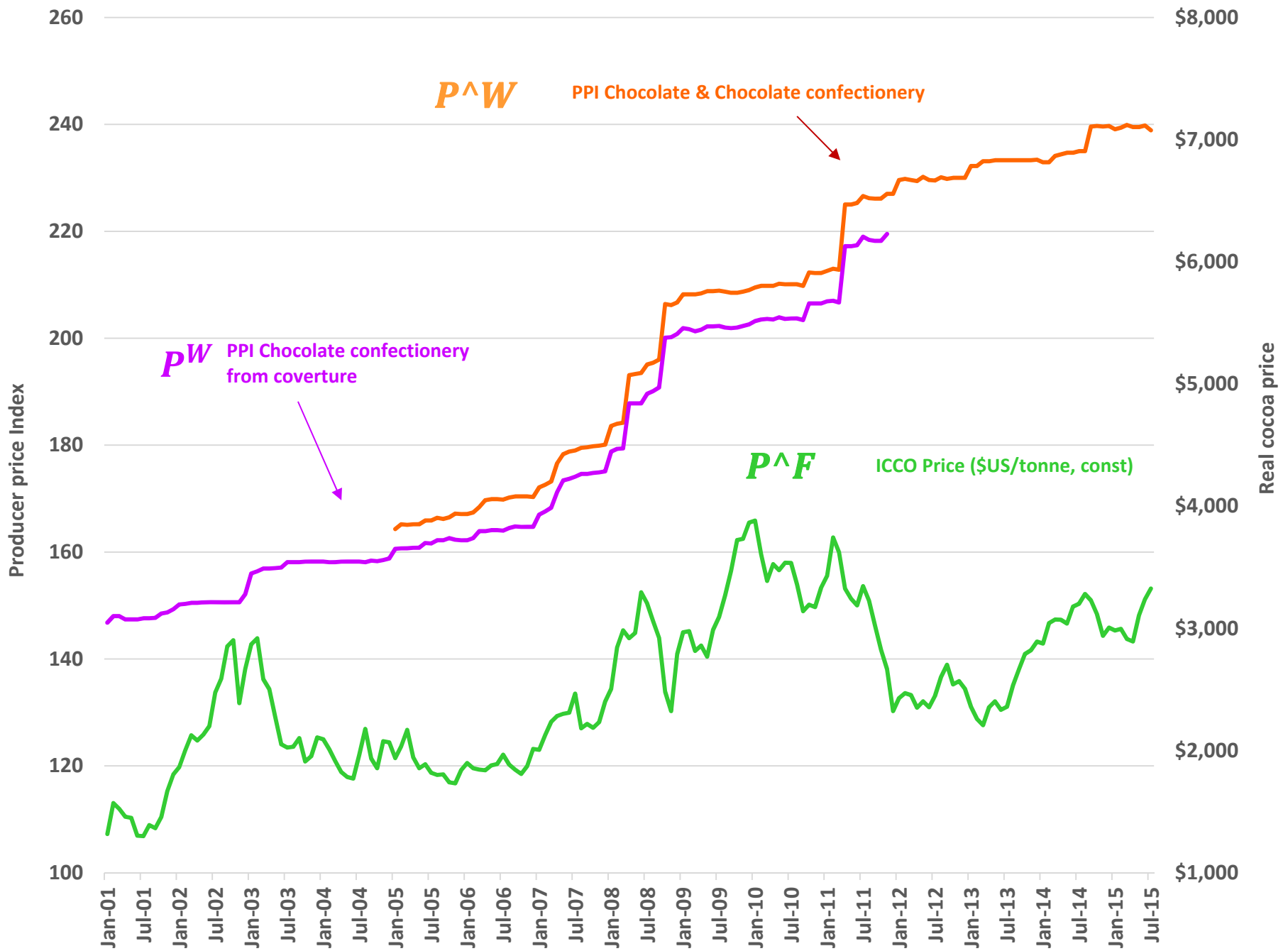
US Cocoa Supply Chain

US Cocoa Supply Chain

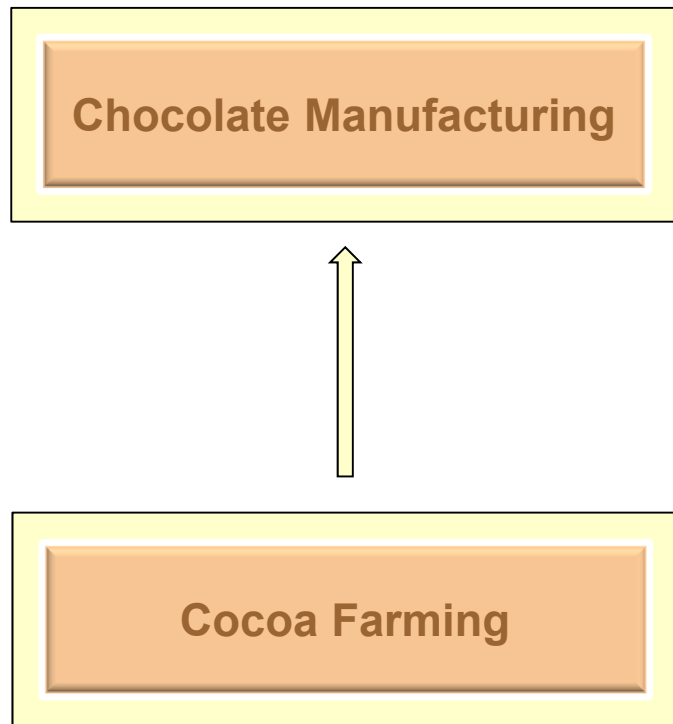
P_t^W PPI *NDU3113303113301*: Confectionery manufacturing from purchased chocolate, monthly, US Bureau Labour Statistics

P_t^W PPI *WPU02550301*: Chocolate and chocolate-type confectionery, monthly, US Bureau Labour Statistics

P_t^F ICCO nominal price (US/tonne), monthly, ICCO
CPI All Item Index, US Federal Reserve Bank of St Louis



Chocolate confectionery from couverture



ΔP_t^W

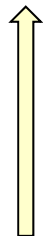


ΔP_t^F

$$\Delta P_t^W \approx 0.060 \times \Delta P_{t-4}^{F+} - 0.004 \times \Delta P_{t-4}^{F-}$$

*(0.022)**** *(0.223)*

Chocolate and Chocolate-Type Confectionery



ΔP_t^W



$$\Delta P_t^W \approx 0.059 \times \Delta P_{t-4}^{F+} - 0.0005 \times \Delta P_{t-4}^{F-}$$

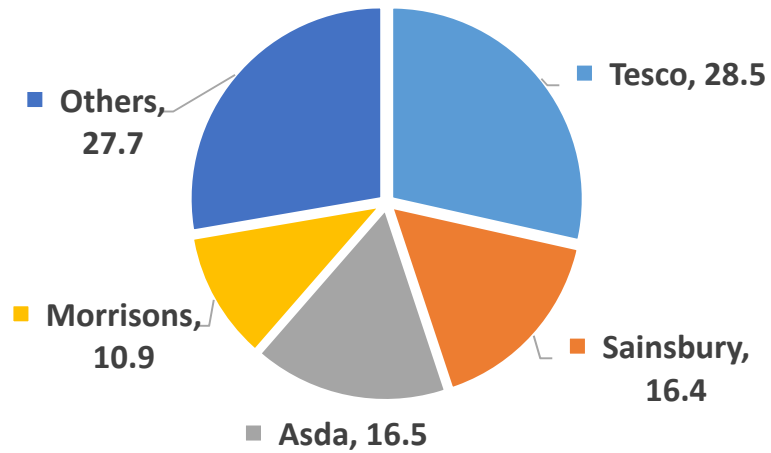
*(0.026)*** *(0.025)*

ΔP_t^F

Concluding Remarks

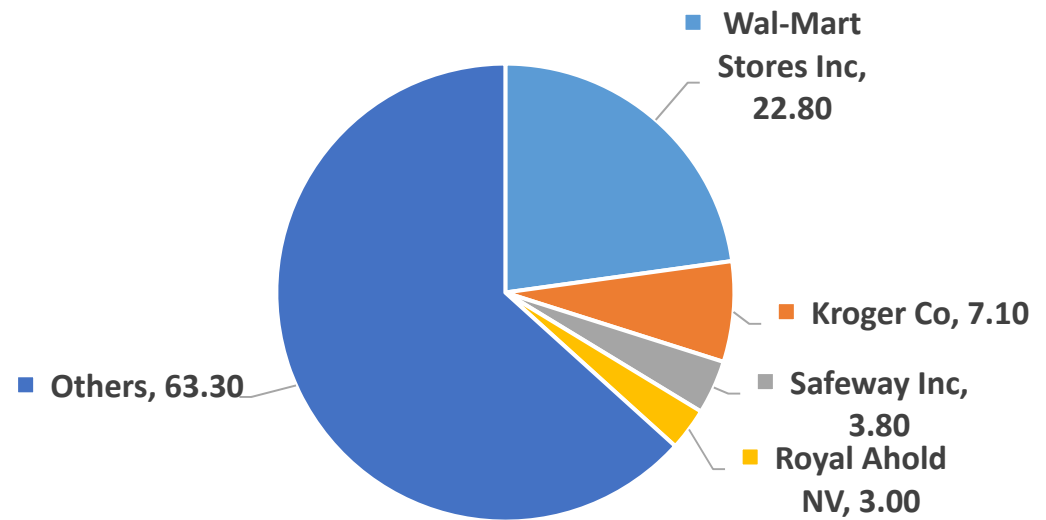
- 1. There is an asymmetric distribution of bargaining power in the global cocoa chain**
- 2. There is no definite legal framework to multinational mergers (i.e. ongoing discussion at WTO)**
- 3. Provide countervailing power to primary producers**

Retailers' Market Shares in UK 2015

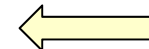


Source: Retail Economics

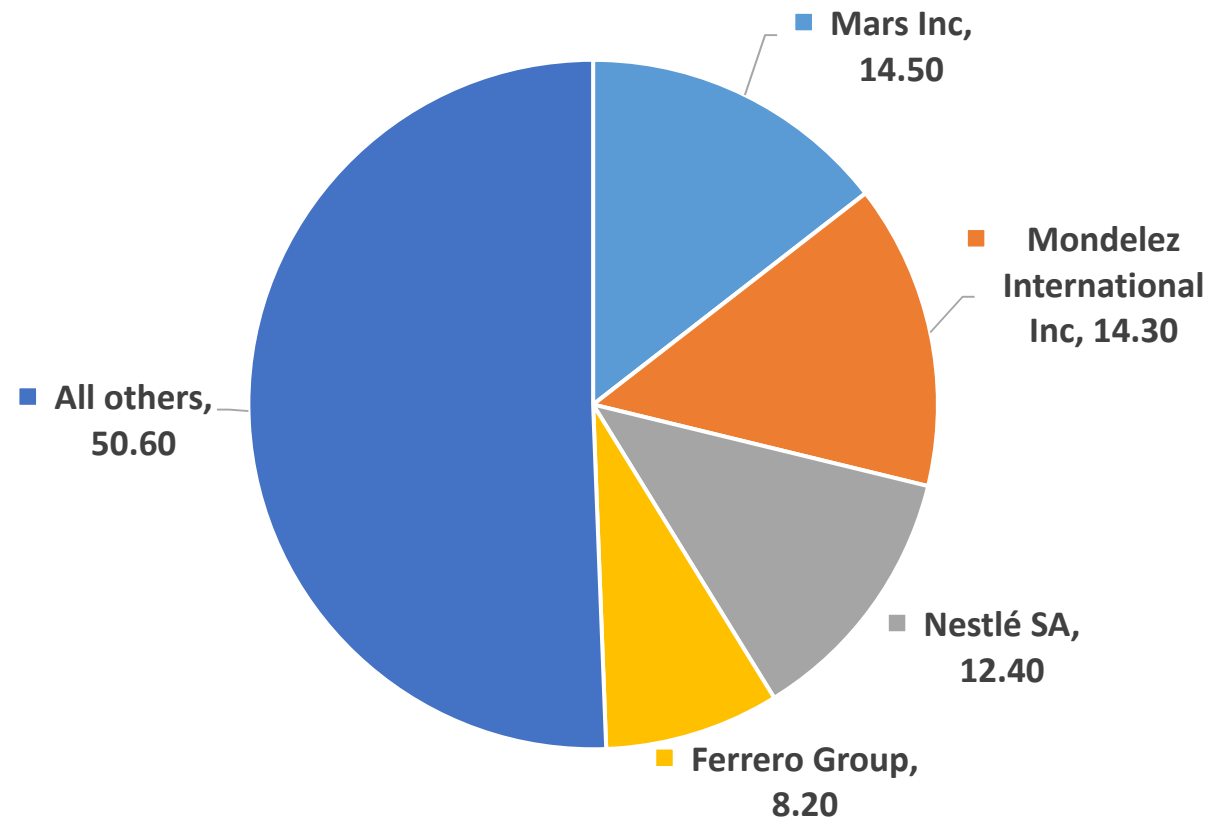
Retailers' Market Shares in US 2008



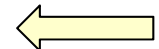
Source: Euromonitor International



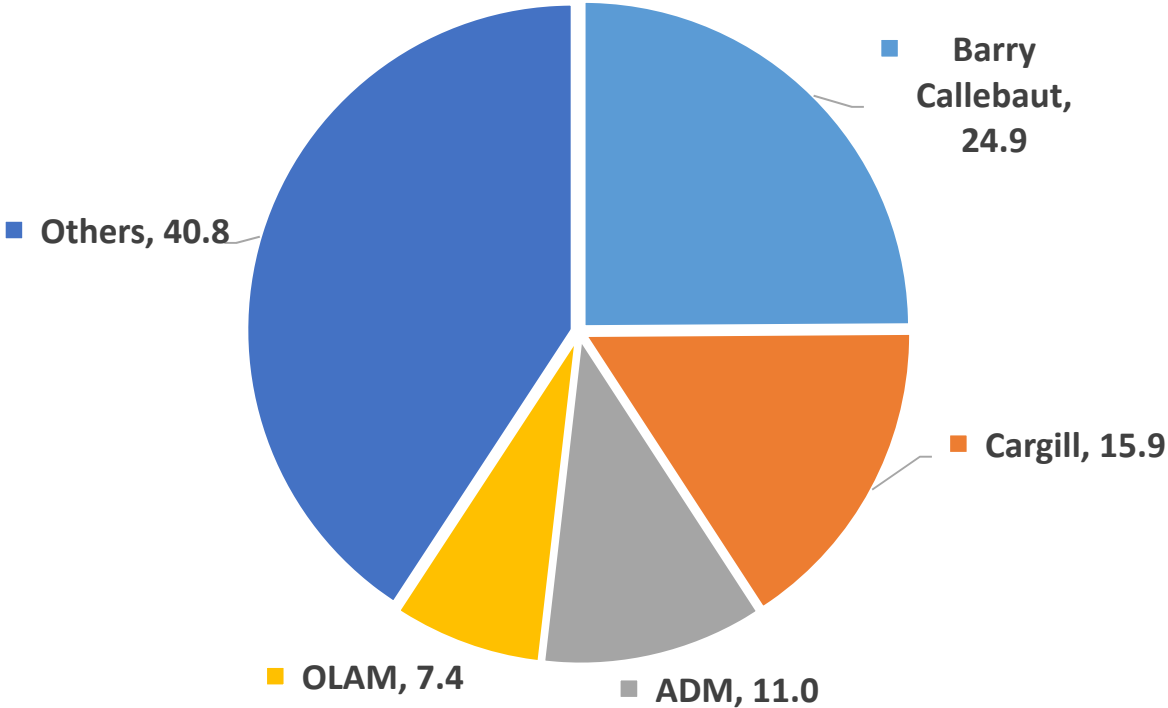
Estimated World Retail Shares of Chocolate Manufacturers in 2015



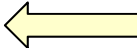
Source: Euromonitor International, 2015



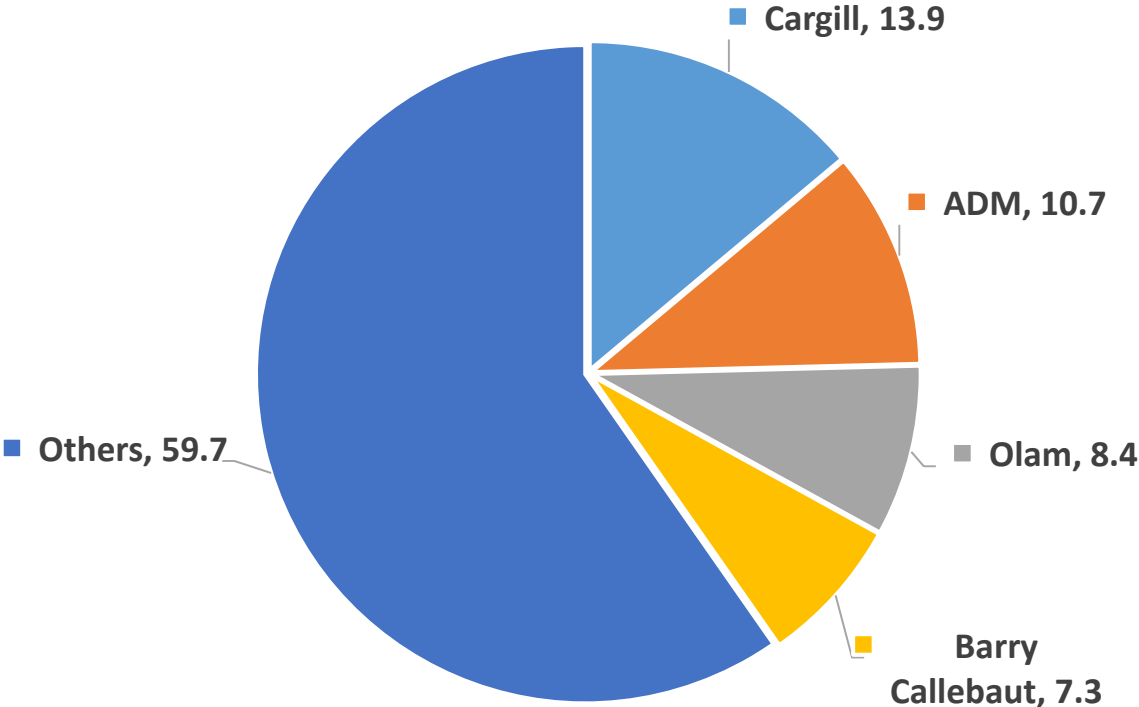
Estimated Grindings Capacity in West and Central Africa



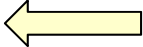
Source: CCC, COCOBOD, CICC, CAN



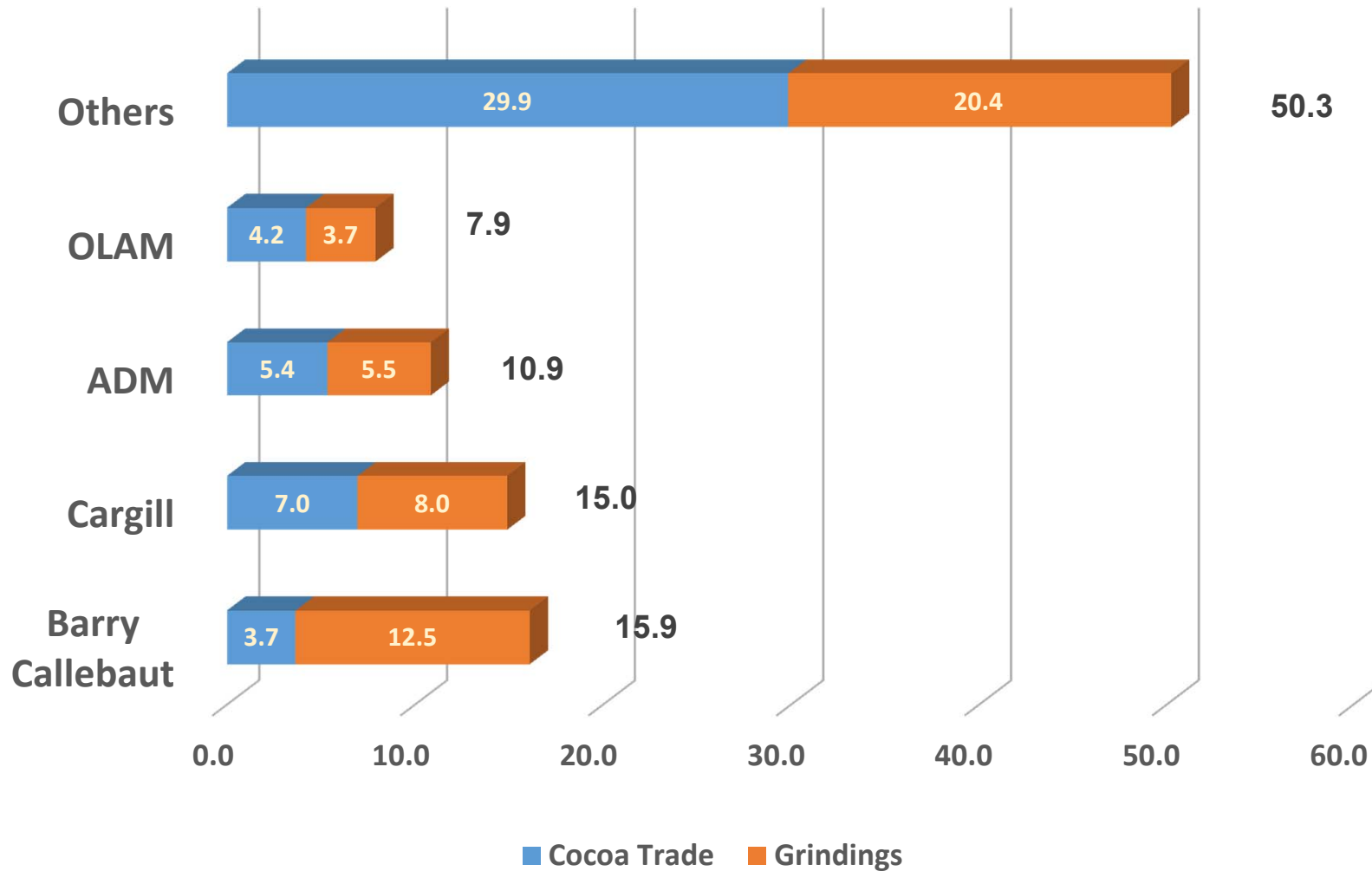
Cocoa Trade in West and Central Africa in 2012



Source: ECOBANK, 2012



Cocoa trading and Processing in West And Central Africa



Source: CCC, COCOBOD, CICC, CAN, ECOBANK

