Can E-Commerce Provide a Solution to the Coffee Paradox? The Case of Costa Rica

Francisco J. Mata, Ariella Quesada
Programa de Investigación y Extensión en Tecnología de Información y Desarrollo
Escuela de Informática
Gabriela Mata-Marín
Escuela de Planificación y Promoción Social

Agenda

- Introduction
- Coffee Production, Processing and Distribution
- E-Commerce Systems for Coffee in Costa Rica
- Analysis of these E-Commerce Systems
- Conclusions and Recommendations

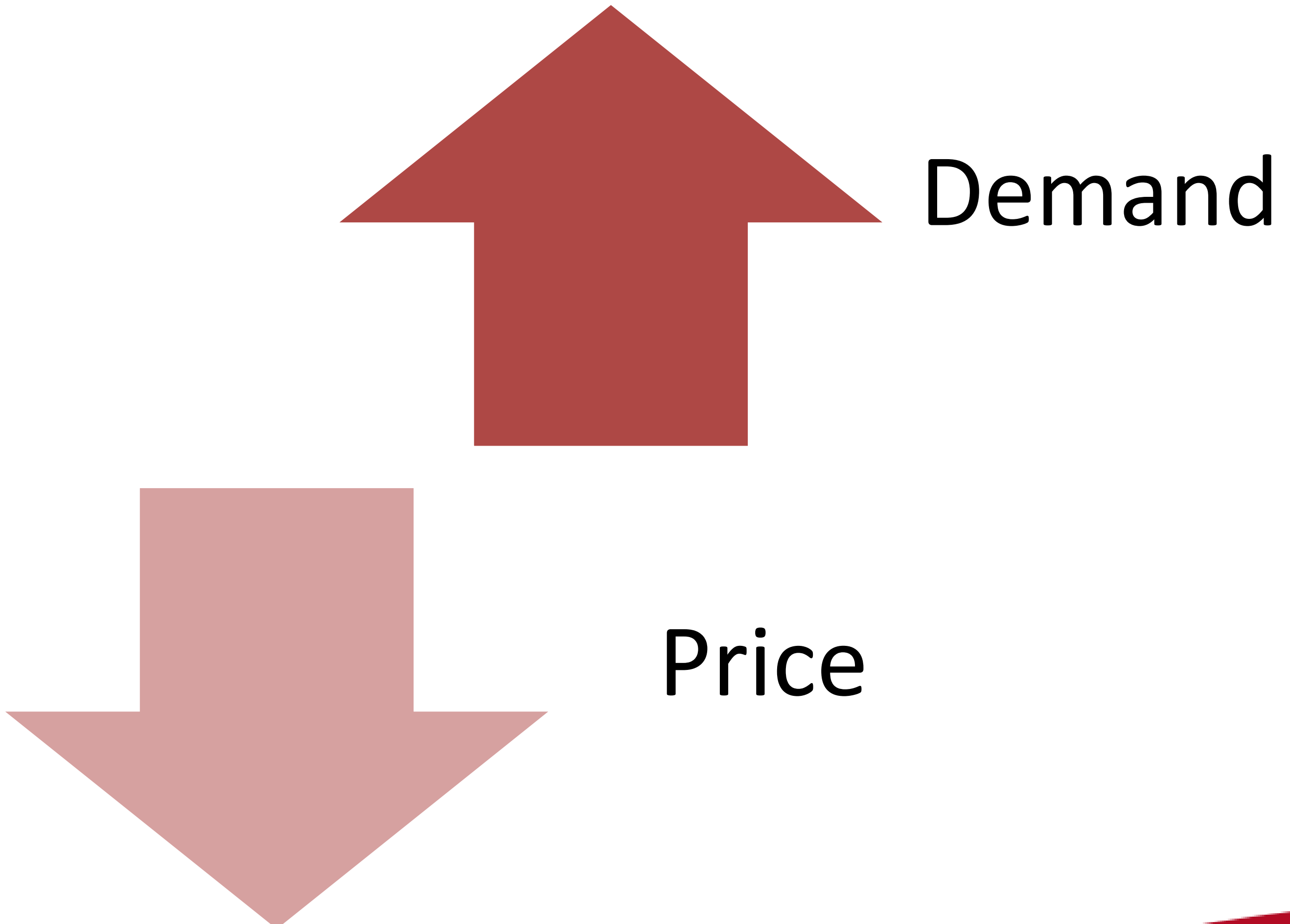
INTRODUCTION

Coffee

- Coffee is produced in approximately 70 countries in the world
  - 25 million farmers, mainly smallholders, and most located in developing countries (World Bank, 2007)
    - It provides a livelihood to another 100 million people (Fairtrade Foundation, 2012)
  - Coffee prices are essential to improving living conditions, particularly in low-income producing countries
    - A 10% increase in the price of coffee can reduce poverty by 6 percentage points in the case of Uganda (Deininger and Okidi, 2003)

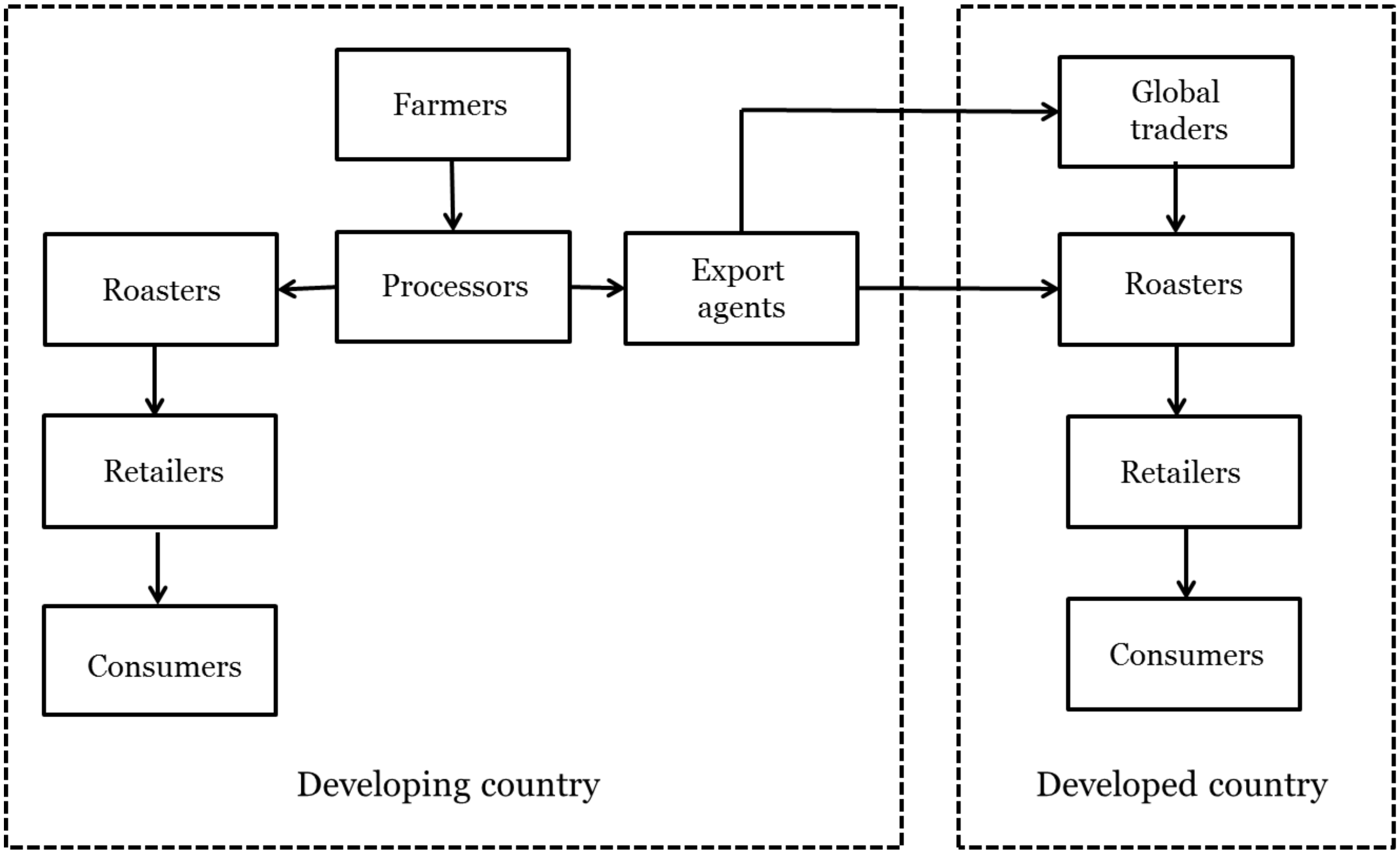
Coffee paradox

(Daviron and Ponte, 2005)



COFFEE PRODUCTION, PROCESSING AND DISTRIBUTION

Global Value Chain (GVC) for Coffee



Adapted from Fitter and Kaplinsky (2001) and UNCTAD (2003)

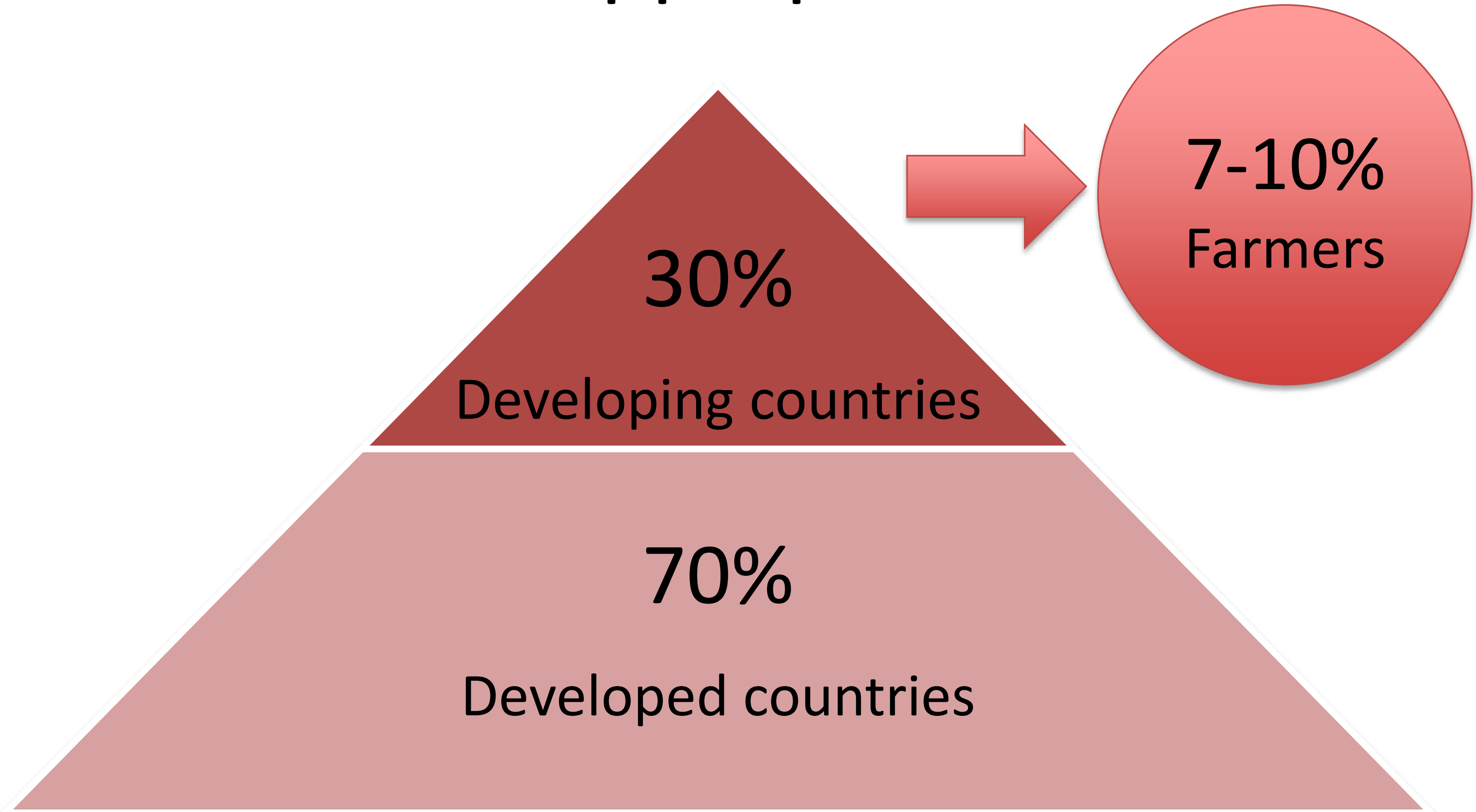
Market functions of the intermediaries in the GVC for coffee

Intermediary	Market functions (Bakos, 1998)		
	Matching buyers and sellers	**Facilitation of transactions**	**Institutional Infrastructure**
Processors	• Determination of green coffee offerings	• Logistics • Settlement • Trust	• Regulatory
Export agents	• Search • Price discovery	• Logistics • Settlement • Trust	• Legal • Regulatory
Global traders	• Search • Price discovery	• Logistics • Trust	• Regulatory
International roasters	• Determination of roasted coffee offerings	• Trust	
Retailers	• Price discovery	• Logistics	

Coffee and Quality

- Mainstream coffee
  - An agricultural commodity
  - Is intended for the general public and represents between 80-90% of the total coffee market (ITC, 2011)
- Specialty coffee
  - It can obtain 25% or more in price premiums at the retail level, although it only represents 10-15% of total coffee traded (ITC, 2011)
  - It is an attempt to differentiate coffee and promote its "decommodification"

Rent Appropriation



Source: Daviron and Ponte (2005), ITC (2011), Fitter and Kaplinsky (2001)

Rent Appropriation

- Oligopolistic conditions in GVC for coffee
  - Developing countries
    - 25 million farmers worldwide (World Bank, 2007)
  - Developed countries
    - 4 multinational corporations control 45% of the roasting segment worldwide (World Bank, 2007)
  - Governance of the GVC for coffee rest on the international roasters (Daviron and Ponte, 2005)

E-COMMERCE SYSTEMS FOR COFFEE IN COSTA RICA

E-commerce systems found in Costa Rica

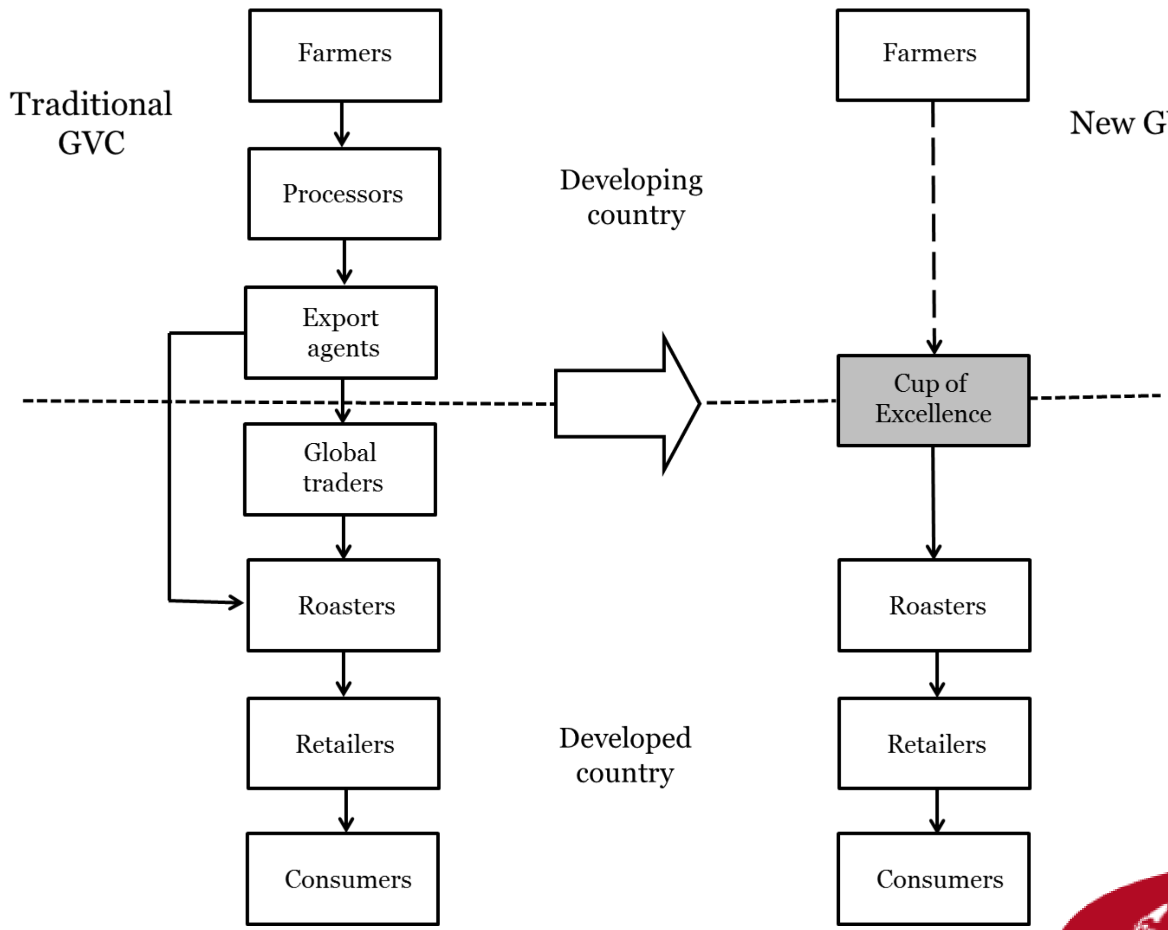
- Green coffee
  - Cup of Excellence
- Roasted coffee
  - Costa Rican roasters

The Cup of Excellence (CofE)

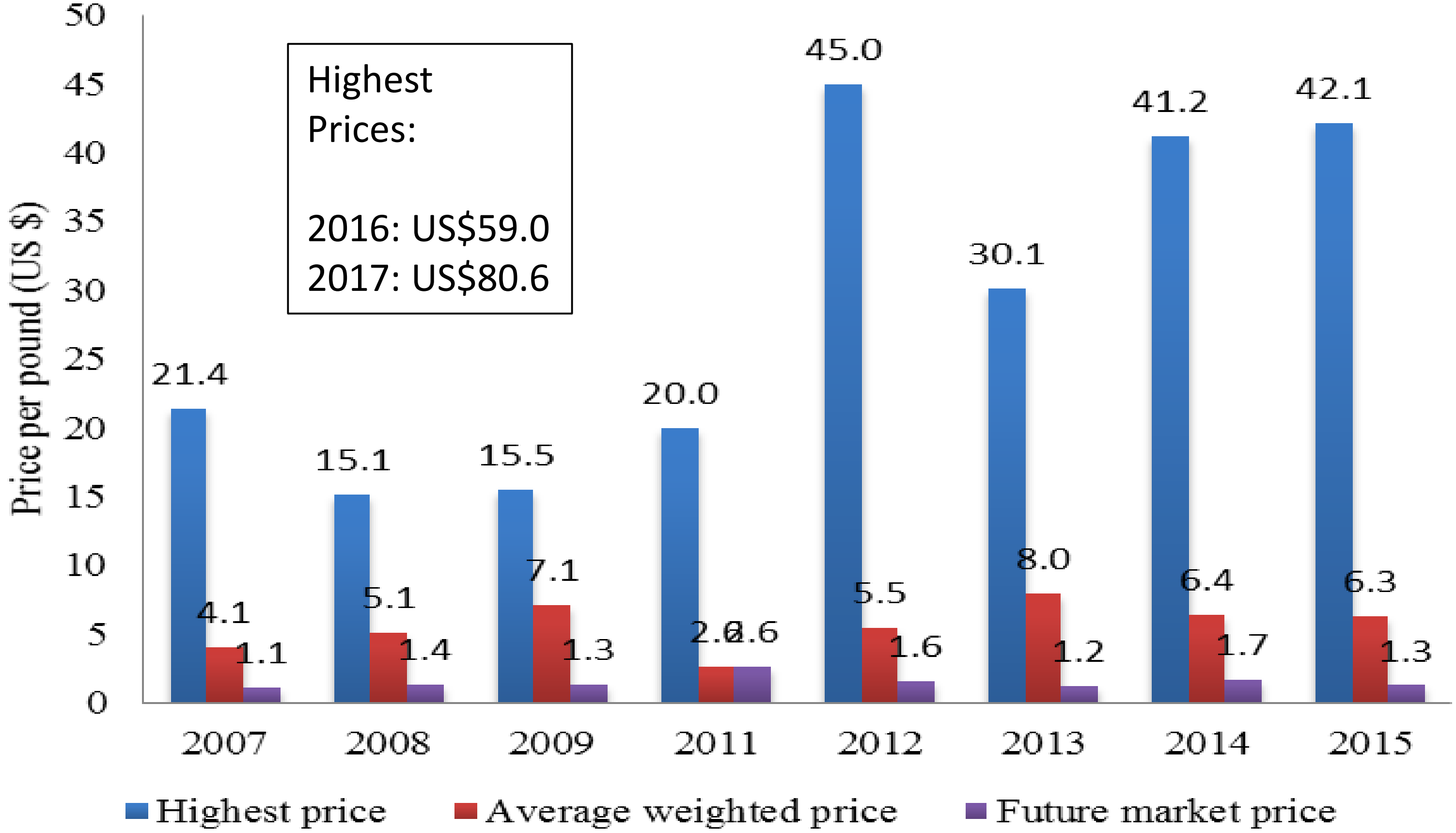
- B2B e-commerce system used by farmers to directly sell specialty green coffee to roasters in developed countries
  - Developed and organized by the Alliance for Coffee Excellence
    - US-based non-profit organization
  - It promotes national competitions for gourmet coffee in 10 countries, including Costa Rica
- Aimed at rewarding quality
  - Organoleptic characteristics of the coffee traded (acidity, aroma, body and flavor)

CofE

Traditional GVC for Coffee and its transformation by the CofE



Highest and average prices for coffees auctioned by the CofE in Costa Rica and comparison with ICE futures market prices



Increase in prices

- Difference in prices between the highest bids obtained in the CofE auctions and the futures market prices range from 660% (2011) to 3,215% (2015) and vary from -1% (2011) to 552% (2013) between the weighted average bids and this same benchmark price

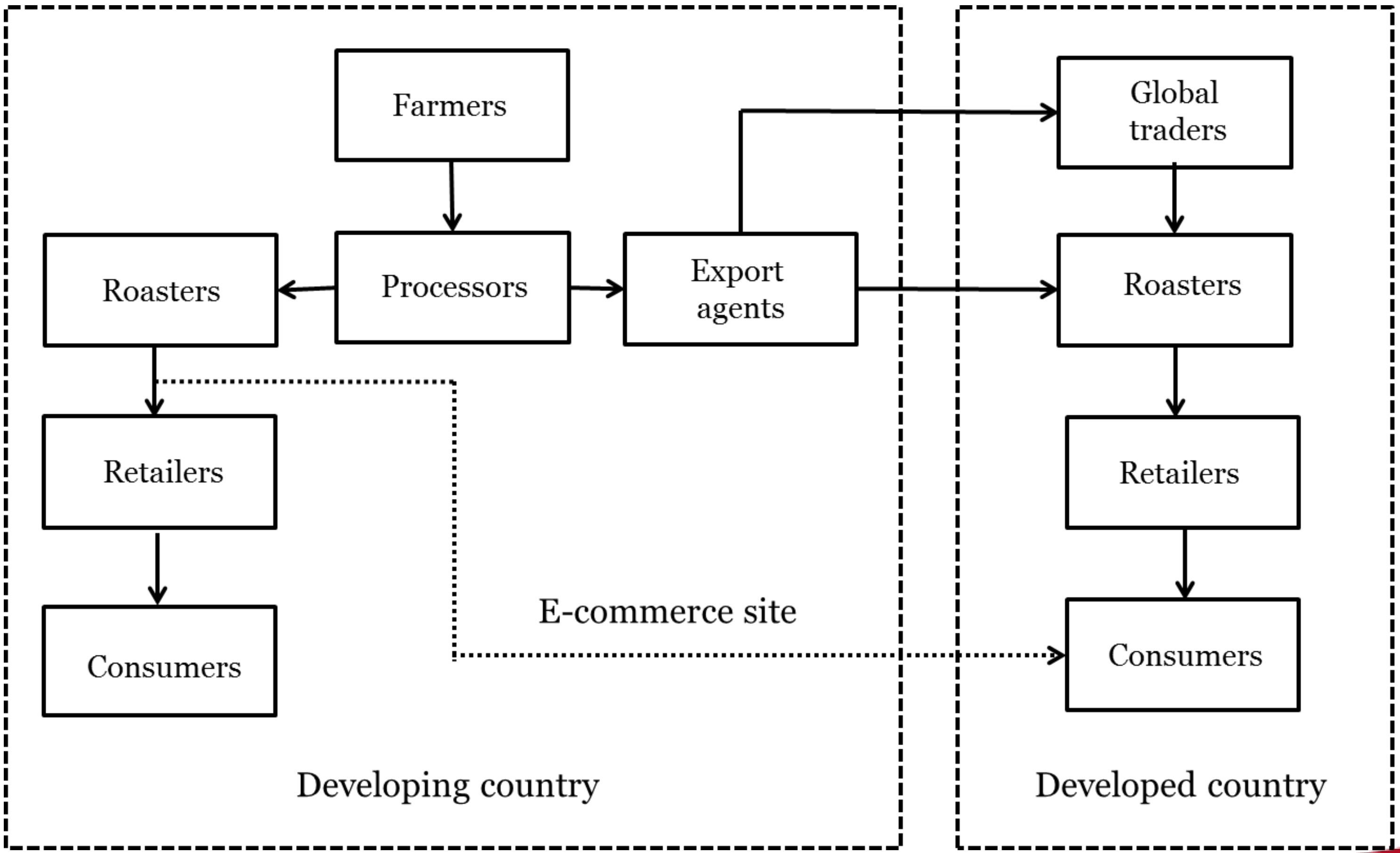
Amount of coffee traded through the CofE

- Lowest amount traded 62,199 pounds in 2009 and highest 95,266 pounds in 2011
- In 2015, 87,774 pounds were traded
  - Less than 0.1% of the total coffee exports from Costa Rica for the 2014-2015 crop

Roasters' E-Commerce Systems

- Higher margins can be obtained if roasted coffee is exported directly to customers (Brenes et al., 1997)
- In the case of Costa Rica, 14 --out of the 63 Costa Rican roasters-- (22%) sell coffee through their own B2C e-commerce sites
  - Focus on geographical indication and/or eco/sustainable labeling and emphasis on high-quality Arabica blends provide evidence that most of coffee sold correspond to specialty –rather than to mainstream– coffee

Roasters' E-Commerce Systems for Roasted Coffee



Prices of roasted coffee for selected brands in US$

Roaster	Brand	Price			
		EC site	Supermarket	Difference	
				Absolute	Relative
Café Rey (caferey.net)	Rey Premium (Dark Roast Ground 400 gr.)	11.86	6.66	5.20	78.08%
	Tarrazú (Ground 500 gr.)	14.86	8.32	6.54	78.61%
Grupo Britt (cafebritt.com)	Britt (Ligth/Dark Roast 340 gr.)	12.95	8.42	4.53	53.80%
	Tarrazú Montecielo (Ground 340 gr.)	12.95	9.55	3.40	35.60%
	Organic Coffee (Ground 340 gr.)	13.95	9.97	3.98	39.92%
Triángulo de oro (triangulodeoro.com)	Triángulo de Oro Premium (Medium Roast Ground 340 gr.)	9.99	5.07	4.92	97.04%

a. Prices as of 25 January 2016
b. Do not include shipping and handling
c. Prices in San José from a major supermarket chain

ANALYSIS OF THE E-COMMERCE SYSTEMS USED IN COSTA RICA FOR COFFEE

CofE versus Roasters' E-Commerce Sites

	CofE	Roster´s e-commece sites
Upgrading	Functional	Intersectoral
Focus	Organoleptic characteristics (acidity, aroma, body, and flavor)	Non-organoleptic characteristics (brand, geographical indications, and eco/sustainable labels)
E-commerce effect	• Desintermediation (processors) • Cybermediation (new electronic intermediary replaces export agents/global traders)	• Desintermediation (export agents/global traders and retailers) • Reintermediation (local roasters substitute international roasters)
Effect in GVC	No changes in territoriality or governance	Change in territoriality, but no change in governance
Increase in price	Extraordinary for farmers	High, but not extraordinary, for roasters
Effect in the coffee paradox	Benefit in price increase is limited • Reduced number of farmers participate, which favors a search for scarcity by roasters ("non-scalable development approach") • International roasters benefit the most	Farmers do not necessarily benefit from the increase in prices

CONCLUSIONS AND RECOMMENDATIONS

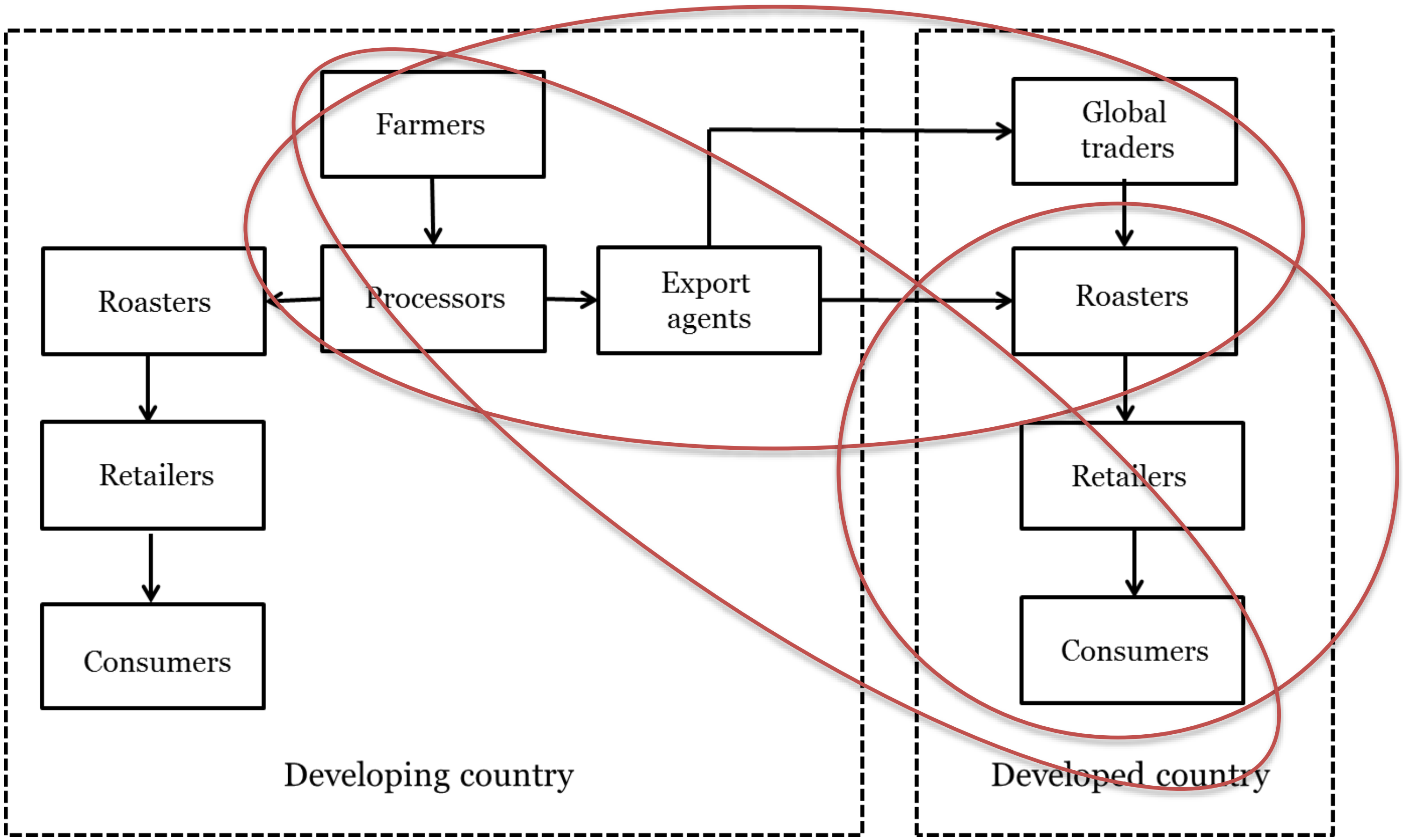
Conclusions

- The two types of e-commerce systems used in Costa Rica to export coffee internationally are able to generate higher earnings for local actors in the GVC for coffee
- But none of them changes the governance of the GVC for coffee
  - Without such a change roasters will be benefitting the most

Conclusions

- Governance is a consequence of the structural conditions in the GVC for coffee that make customers closer to roasters
  - Hardly establishing these customers a connection with farmers
- There is no currently a market in which farmers and consumers relate in a direct manner, since they operate in opposite sides of the GVC for coffee (Pelupessy, 2001)

Conclusions



Recommendations

- We hypothesize that if e-commerce were to be used to provide a direct connection between farmers in developing countries and consumers in developed countries a better solution to the coffee paradox would be obtained
- Therefore, we propose a new e-commerce system aimed at creating an electronic market – through a cybermerdiary– for selling Costa Rican roasted coffee directly from farmers to international consumers focusing on gourmet coffee

crgourmetcoffee.com

- Link coffee farmers with consumers
- Developed in association with
  - Coffee producers
  - Asociación de Cafés Finos (organizers of the CofE)

http://www.crgourmetcoffee.com

Thank you !

fmata@una.cr

ariella.quesada.rosales@una.cr

gabymata@gmail.com