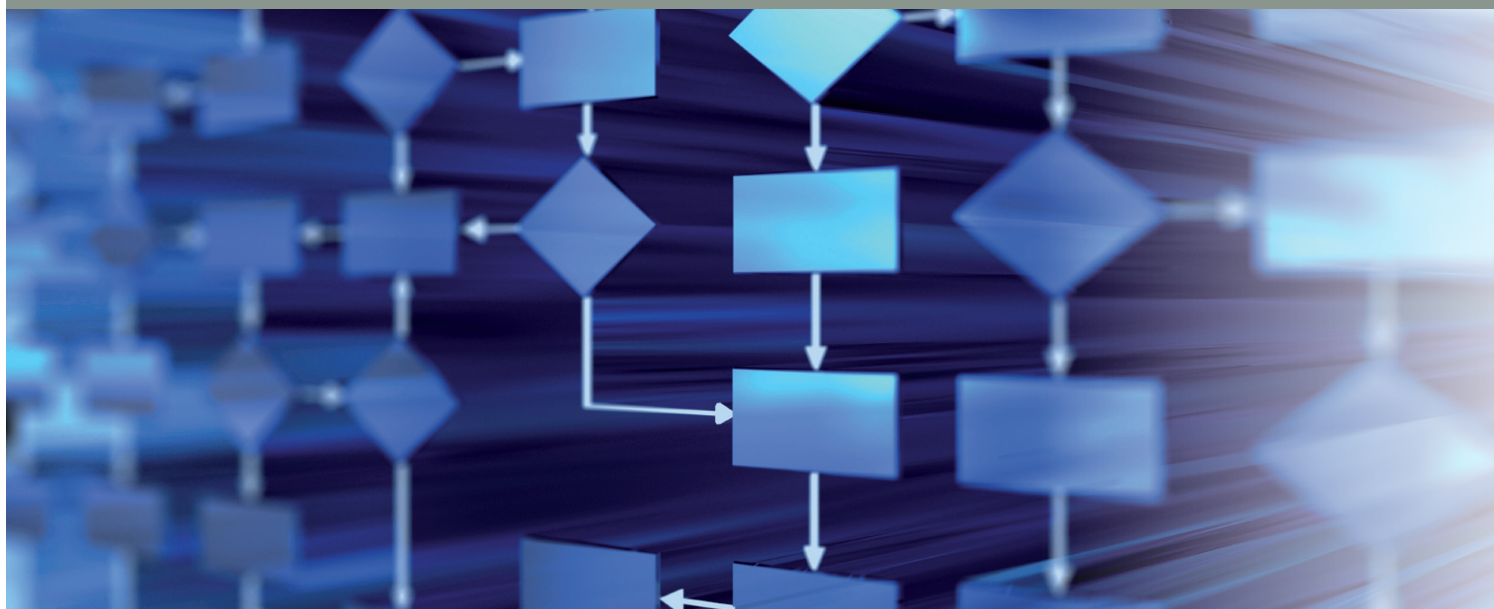


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The powerful role of intangibles in the coffee value chain

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Abstract

Coffee is one of the most important internationally traded commodities. Most of the ca. USD 200 billion value that coffee generates globally accrues to brands, retailers, and supply chain operators; yet most of the risks are borne by the producers at origin countries. Intangibles associated with technology, design and branding as well as access to distribution channels play a significant role in defining the global value chain governance (GVC) and value appropriation. However, there is evidence that in the most dynamic market segments intangibles can be utilized to not only improve grower value but also to increase the total value of the industry.

This paper highlights how the conditions associated with innovative consumption trends and logistical abilities (from origin through to retail) can enable the marketing of highly differentiated products that embed origin intellectual property. The implications are far reaching and include: a) new opportunities for coffee growing communities to improve their incomes; b) effects on the strategic direction of more vibrant and diverse global value chains; and c) lessons that likely apply to other consumer-facing commodities as well.

The paper describes: a) the coffee industry and its GVC structure; b) the role that intangible assets play in value creation from both the supply and demand perspective; and c) the current and potential role of intellectual property tools in creating and retaining value, as well as providing economic upgrade options.

Keywords: coffee, global value chain, intellectual property, differentiation, governance structure, economic upgrading, geographical indications.

JEL Classification: F13, F23, L16, L66, O34, Q13, Q17

Disclaimer

The views expressed in this article are those of the authors and do not necessarily reflect the views of the World Intellectual Property Organization or its member states.

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Summary

Every day, the world consumes about 3 billion cups of coffee. Coffee is not only a vital presence in the daily life of a significant share of the world's population, it is also one of the most important internationally traded agricultural commodities and it has a significant social and economic impact for 25 million families - mostly small farmers - that live in more than 50 producing countries.

As in many commodity value chains, coffee brands and processors based in higher-income countries keep most of the industry value for coffee. For producing countries the total export value is less than 10% of our estimated \$200 billion annual industry value. Many small farmers earn a far smaller percentage of the price paid by consumers. The difference can be accounted for, partly in the asymmetry of power evident in a market driven value chain governance and with the ability to create and market intangible value, associated with brands or retail experience at the consumer end of the value chain. Thus, most of the value generation and appropriation occurs in mass distribution outlets such as grocery chains, high-end beverage preparation technologies or retail coffee chains.

From the demand side, the significant changes experienced by the coffee industry in the last few decades have brought new opportunities for demand expansion and for farmer and origin differentiation. This evolution started with little or no origin-related differentiation and a market dominated by brands selling mostly through grocery retail outlets, focusing on standardization and volume, which were prevalent throughout most of the 20th century.

This first wave of conventional coffees was challenged by a second wave or "differentiated" segment, consisting of new players that leveraged beverage quality attributes in out-of-home venues such as specialty coffee shops. They focused on developing their own intangibles associated with new brand experiences and beverage preparation techniques, selling at higher price-points. Their coffees were mostly described as sophisticated blends without much information on their provenance, allowing brands to replace their raw material from different origins as needed. Second wave brands significantly contributed to the expansion of the coffee industry value over the last 30 years and created interest in an otherwise somewhat dormant category. However, in both waves, neither farmer conditions nor value distributions altered significantly.

Beginning in the 1990s, Voluntary Sustainability Standards (VSS) that focus on economic, social, and environmental considerations in coffee growing regions did contribute to better farmer conditions in some settings. Yet, over time, only a limited number of producers have been able to access significant economic upgrading opportunities beyond a modest price premium. VSS models, whether in the conventional or differentiated segments, have not typically served to convey more grower-specific attributes such as growing regions, unique flavor profiles or quality, or specific farms.

Coffee's third wave or "experiential" segment – where the farmer and the human connection between the retailer and the producer play more significant roles – offers an opportunity to alter a "dependence pathway" typical of North-South trade. These new formats, mostly led by independent baristas and coffee shop operators, focus on direct trade with coffee producers and new beverage preparations. This focus is leading to a shortened value chain, often featuring an increased farmer-barista cooperation that creates conditions for product innovation, and an increased role of science and origin as product differentiators. Part of this can serve as a better value proposition for

farmers. This specialized segment is particularly relevant to younger consumers and sells at higher prices by creating intangibles for both the brands and for origins and farmers. Although still small in volume, independent third wave brands and cafes have been able to create a highly visible new trend and are expanding their footprint in many countries, altering consumer expectations and influencing the whole industry.

This new business model is likely to be scalable. The new “digital” generations demand for more information about the origin and character of the coffee products they drink and the third coffee wave can supply the reliable content that clients increasingly demand. By developing individual and joint intangible values, this business model provides incentives for establishing longer-term relationships at prices that are not limited by the vagaries of commodity markets and can develop a relational value chain governance where both farmers and retailers depend on one another to create additional value. Scaling up this model may both increase overall value and shift more of that value to producers. This can provide significant opportunities for farmer-owned brands and Geographical Indications to conquer new segments and create a measure of consumer-level recognition for notable origins and farmers, enhancing prospects for upstream actors to capture consumer loyalty and appropriate value. Certainly, the wine sector has achieved a high level of development for its intangibles that capture consumer value and there is no reason why coffee growing communities and the industry overall cannot achieve a similar outcome

In a commoditized market producers have a limited set of options or the unsavory option of a race to the bottom competing against each other on basic factors such as price. Developing and leveraging supply side and demand side intangibles may become part of a much desired solution to the significant challenges the coffee industry is currently facing. In addition to the challenging international coffee prices, that have remained low in real dollar terms, coffee producers are plagued by increasing price volatility and other difficulties such as labor scarcity and climate change. In this context it is not surprising that the current state of affairs and value chain governance are being questioned. Moreover, as the industry expands and demands a large and diverse supply, stakeholders have come to realize that this can only be possible if both upstream and downstream players can take advantage of necessary incentives and economic upgrade opportunities.

This document is divided into three Chapters. Chapter one describes the coffee industry and its value chain, illustrating how the nature of consumption and the associated distribution channels have a significant structural influence in coffee pricing and value chain governance. In chapter 2 we discuss the role that intangible assets play in the coffee industry from both the supply and demand perspective. In this section we also discuss the evolution of three coffee segments or “waves”, the roles of technology and branding, and illustrate how the system of value distribution is changing as players specialize in new roles. Finally, in chapter 3 we discuss the current and potential role of intellectual property tools in creating and retaining value, and their relations with economic upgrade possibilities in the context of global value chain approach.

We believe that the industry should consider the mutual benefits of this approach as both a proactive and pragmatically useful path to induce new market growth and overcome some of the supply side challenges that the industry faces.

Chapter 1: The Coffee Industry and its Value Chain

1.1. The Global Coffee Industry

Coffee is one of the most important internationally traded agricultural commodities. It is produced in over 50 countries, located in the tropical and subtropical areas (Map 1), and is a source of income to nearly 25 million coffee growers, mostly small holders that run plantations of less than 5 hectares. Coffee is also one of the most widely consumed beverages in the world, as it is part of a significant share of the world population's daily routines.

Map 1: Main Coffee Exporting Countries



Note: International Coffee Organisation data. It does not include marginal producers such as Cambodia, China and Myanmar that are not ICO members

Source: Samper & Quiñonez, 2017

From a geographic perspective, a large portion of coffee demand has traditionally concentrated in more developed countries with a higher income per capita located in the northern hemisphere, often referred to as “importing countries”. Therefore, coffee is often analyzed as a commodity whose trade patterns and value chain governance relations depend on the “North” (consumption), which has a significant influence in the “South”, where producing or exporting countries are located (Ponte, 2002, Daviron & Ponte, 2005). A large portion of the world's demand is still concentrated in the United States, and Western Europe (Chart 1).

Chart 1
World Coffee Consumption 2013 -2016
By Region and Origin (000 of green coffee bag equivalent)

	2013	2014	2015	2016	CAGR 2013-2016
Exporting countries	46,109	47,245	48,262	48,337	1.2%
Importing Countries	102,931	104,577	107,450	106,763	0.9%
<i>Africa</i>	10,595	10,739	10,745	10,774	0.4%
<i>Asia and Oceania</i>	30,714	32,602	33,665	33,669	2.3%
<i>Mexico and Central America</i>	5,158	5,240	5,311	5,237	0.4%
<i>Europe</i>	50,169	50,907	51,802	51,544	0.7%
<i>North America</i>	27,714	27,372	28,875	28,535	0.7%
<i>South America</i>	24,682	24,962	25,313	25,341	0.7%
TOTAL CONSUMPTION	149,032	151,822	155,712	155,100	1.0%

Source: ICO Jan 2017 Report CAGR: Compound Annual Growth Rate,

In the United States, currently the biggest market in terms of value and volume, marketing research shows that coffee is the most important beverage for consumers Technomich (2016), NCA (2016), and is consumed by more than three quarters of the adult population in a given year. Also, different “coffee consuming cultures” have developed over the years in a large number of countries (Reina et al 2007, Pendergast, 1999, Euromonitor b 2016). All in all, it can be said that the world consumes nearly 3 billion cups of coffee per day² a figure that highlights the social dimension of this beverage in the lives of a significant proportion of the world’s population.

The coffee industry is also a prime example of a commodity trade with unequal value distribution. According to the International Coffee Organisation (ICO), around 74% of the world’s total production is exported, generating a total value of coffee exports to producing countries of \$19.2 billion³ in 2015 (ICO c, 2016). This figure represents the portion of income of farmers, exporters and government agencies involved in coffee international shipments. Compared with our estimated 2015 total industry value of around US\$200 billion, this represents less than 10% of overall industry revenues. Perhaps more illustrative of this disparity, 25 million farmers earn far less than even just the tax revenues that the industry generates in one single consumer country: according to the US National Coffee Association (NCA 2016), the US industry generated over \$28 billion in tax revenues for federal and local governments in 2015 (including those providing coffee ancillary goods in that market).

² Using an average cup size of 100 ml and a concentration of 7 roasted coffee grams per serving and 2016 estimated world green coffee consumption figures from ICO.

³ For a given year prices and volumes may change significantly. Between 2010 and 2015 the average export value was \$20.2 billion.

Apart from its unequal income distribution, coffee growers shoulder most of the industry risks. In addition to the exchange or market price risks, farmers must deal with the crop loss agricultural risks related to weather, pests, disease, and fluctuating costs of production (Chart 2). As we will see in more detail in the next chapter, there is a growing concern of the questionable sustainability of coffee farming and the industry's inability to provide longer term solutions to challenges that also include high transactions costs and an ageing farmer population (ICO c 2016, Hillocks 2001, Samper & Quiñonez 2017). Like in many other agricultural commodities, one of the big challenges of the coffee industry is to provide market based solutions to these difficulties.

Chart 2
Overview of the Economic, Social and Environmental Challenges
faced by small coffee growers

Social Issues	Food Insecurity	
	Malnutrition	
	Poor Access to Education and Healthcare	
	Lack of Retirement - pension	
	Gender inequality	
	Ageing farmer communities	
	Migration & young people leaving coffee farming	
	Lack of institutions and appropriate governance	
Economic issues	Green Bean price volatility	
	Exchange rate volatility	
	Long term decreasing real coffee prices	
	Lack of market information	
	lack of product information	
	Rising living costs	
	Ageing coffee trees	
	Land tenure uncertainty	
	Limited access to insurance and hedging instruments	
	Poor services through local or farmer organisations	
	No living income	
	Environmental	Deforestation
		loss of biodiversity
soil erosion and degradation		
inappropriate use of agrochemicals		
degradation of water quality and supply		
limited waste water management		
evolving coffee pests and diseases		
climate change and volatility		

Source: Samper & Quinonez, 2017

Most of these challenges are common to many agricultural products. As a high profile product, coffee has long been the leading agricultural commodity for which a number of innovative solutions have been developed to address the challenges of sustainability (Giovannucci & Koekoek 2003). Since initiatives that originate in the coffee industry are often adapted to other goods produced in less developed countries, the analysis of the current and evolving role of intangibles and market demand for coffee can be quite timely. In this paper we illustrate how recent developments can overcome some of the challenges described above and provide suggestions of possible paths that can lead to changes in coffee industry relationships and value chain governance¹ that can generate a more balanced and sustainable growth while creating additional value at both the local level in the 50+ producing countries and at the consumer end of the chain.

1.2. A North-South Product

Around 70% of the world's coffee production is consumed in importing countries. Large industry players, often described as large roasters, obtain green coffee beans⁴ as raw material from different origins, and process them into decaffeinated, roasted and/or soluble coffees, blending different coffee origins to obtain certain flavor profiles⁵. Once coffees are packaged they find their way to consumers through different distribution channels. Although most roasting and soluble manufacturing technologies are available in producing countries⁶, the stages of blending, branding and distribution, and the ability to sell freshly roasted coffees are often considered key advantages that determine where roasters are located and where most value is generated and appropriated.

It is therefore not surprising that importing countries are also significant re-exporters of green decaffeinated coffees, soluble and roasted coffees. In fact, importing countries re-exported the equivalent of 40 million 60 kilo bags⁷ in 2015, or 35% of the 114 million bags exported from producing countries during the same year according to the ICO. As shown in Chart 3, coffee re-exports by importing countries were sold at more than twice the unit value of coffees sold by producing countries.

⁴ Green coffee beans are the seeds found in coffee cherries produced by coffee trees.

⁵ Depending on the consumer segment, blending decisions would take into account the relative availability of coffees from certain origins throughout the year, their price differential and the ability to obtain a similar flavor profile using different blends from different coffee origins.

⁶ Many major markets also have wide market access for roasted and soluble coffees coming from major producing countries.

⁷ International Volume statistics for Coffee are reported in 60-kilograms bags of green (unroasted) coffee. ICO conversions factors are often used to obtain green coffee equivalent for roasted and soluble coffee volumes. The 60-kilo bag unit will be used throughout this chapter.

Chart 3
Re-Exports of green, decaffeinated, roasted and soluble coffee from
selected importing countries – 2015

	Volume	Value	Unit Value	Index
	Thousand 60 K bags equivalent	Million US dollars FOB	(US\$/60 kilo bag)	Unit Value Producing Countries=100
European Union*	34,432	10,369	301	179
Germany	12,020	3,166	263	156
Italy	3,183	1,420	446	265
Netherlands	1,781	457	257	152
Poland	1,615	448	277	165
Spain	1,636	501	306	182
United Kingdom	1,380	556	403	239
Switzerland	1,641	2,167	1,321	783
USA	2,953	1,041	353	209
Others	1,056	207	196	116

Total Exports Importing Countries	40,082	13,784	344	204
----------------------------------------------	---------------	---------------	------------	------------

Total Exports Exporting Countries	114,010	19,223	169	100
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Source ICO – Authors calculations

*Total EU figures for 2015. European country figures are for year 2013.

It must be noted that producing countries are also active as soluble coffee exporters. However, an analysis made by the ICO has shown that the unit value of soluble coffee exports from a producing country is nearly 25% lower than the unit value of soluble coffee exported from an importing country, suggesting that the latter comes packed and branded while producing countries sell a large share of their exports in bulk (ICO, 2013, ICO, 2014). In addition, processing coffee in producing countries for mass and low value channels has some limitations as operators do not necessarily have the same access to different coffee grades and origins, as green coffee imports may be restricted by phytosanitary or political considerations. Thus, as many producing countries with manufacturing capabilities do not necessarily have access to the economies of scale in distribution and the resources for successful branding in new markets, their ability to deploy these intangibles and capture more value is limited. Therefore, contrary to a common perception, processing coffee does not necessarily add significant value per se, suggesting that distribution capabilities and intangibles, in particular branding knowhow, are key elements of a successful roasted and soluble brand.

Another point worth making to interpret Chart 3 is that a significant portion of coffee re-exports depends on logistical decisions based on economies of scale of major roasters on where to process their coffees to attend to different markets for their brands. Therefore certain pan-European brands may be produced in Germany to attend to the needs of the Polish or the French market, while US brands with distribution in Canada

may also be accounted for as re-exports. In the soluble area, Germany is also an important producer for private label brands in many European and Asian markets. There are also other major examples of Italian or Swiss brands with global distribution (such as Illy or Nespresso) where technology and brand sophistication play a significant role. In these cases, additional value associated with branding and intangibles explain these much larger unit values

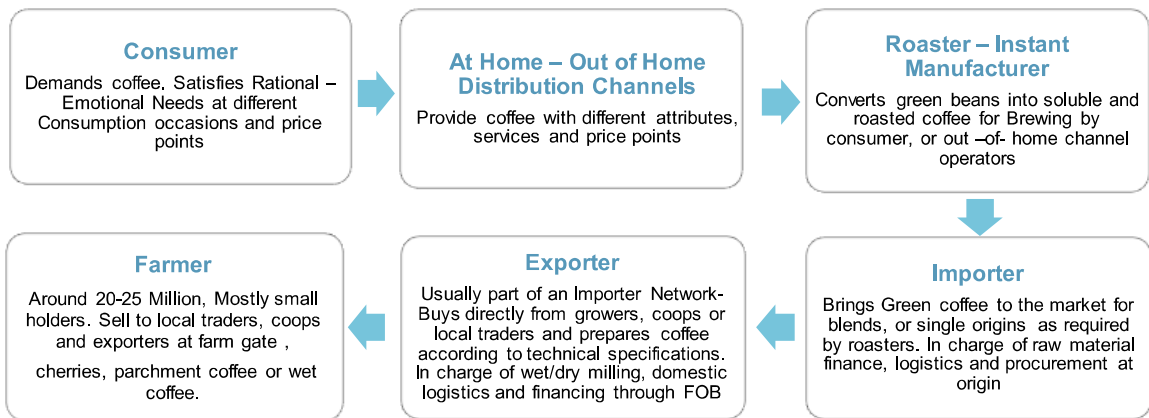
The ability to replace coffees from different origins based on relative prices and availability is an obstacle for promoting specific origins for large brands (Kaplinsky and Fitter, 2004). Thus, to ensure adequate supply and cost competitiveness, most of the large roaster coffee business is still based on blends in the mainstream segments. Coffee producing countries have tried to contest this state of affairs by using “push” (supporting roaster promotions) and “pull” (generating demand) strategies for origin specific coffees with varying degrees of success. The Colombian coffee program is the most successful initiative that led a sizable distribution large roaster brands containing 100% Colombian coffee using advertising, ingredient branding, certification mark, and Geographical Indications as tools. In most cases, however, producing country institutions are weak and budgets for these efforts are limited, so large roasters prefer the flexibility of blends and sell specific origins only if they have origin specific demand.

On the other hand, medium and smaller roasters are more willing to sell single-origin coffees to enhance their differentiation over major brands. With origin-specific coffees becoming another potential source of value enhancement, as upscale markets demand more segmentation, farmers may find an opportunity to differentiate their coffees and their origins before consumers. However, to be able to capture the benefits of the intangibles associated with an increased *origin-equity* in the mind of consumers and develop roaster loyalty to specific origins, farmers will need to contend with a traditional value chain that has specialized in serving the needs of big industry players. This is why we now proceed to review the Global Coffee Value Chain (GCVC).

1.3 The Global Coffee Value Chain (GCVC)

Like in most commodity markets, the coffee value chain is characterized by a large number of farmers that produce different volumes and qualities. Coffee beans reach global markets by a series of activities and homogenization processes so that they can be incorporated into industrial operations. A simplified version of the GCVC and the roles of the major actors is described in chart 4. As we believe demand and governance value chain patterns are a key factor to understand the activities of different value chain actors, we start our description from the consumer as the “first” and not the “last” actor of the industry.

Chart 4
A simplified Version of Global Coffee Value Chain Agents



Source: Authors

The role of the different actors can be summarized as follows:

1.3.1. The coffee consumer

In marketing terms, consumers can satisfy different “needs” in different coffee consumption occasions. These needs, and the price points that consumers are willing to pay to satisfy them, are mostly associated with the location where consumption takes place. Therefore, the specific role of each value chain agent may vary according to the consumer segment the beans are used for.

From a location and occasion perspective, coffee consumption can be divided into at-home and away-from-home consumption occasions. They usually address different needs. For example, the “energy to get me going” need, is often associated with breakfast and morning at-home consumption, while highly social consumption takes place in away-from-home environments. In marketing terms, coffee provides a different and complex set of “functional”, “symbolic” and “experiential” benefits (Keller, 1998) that lead to an expanding number of preparation, qualities and value propositions. Consequently, price points may vary according to the needs being satisfied and the occasion, and the respective channels of distribution. It is therefore useful to understand the relative sizes of different distribution channels and their impact on the coffee industry’s value chain.

1.3.2 Category Value and Volume by Channel

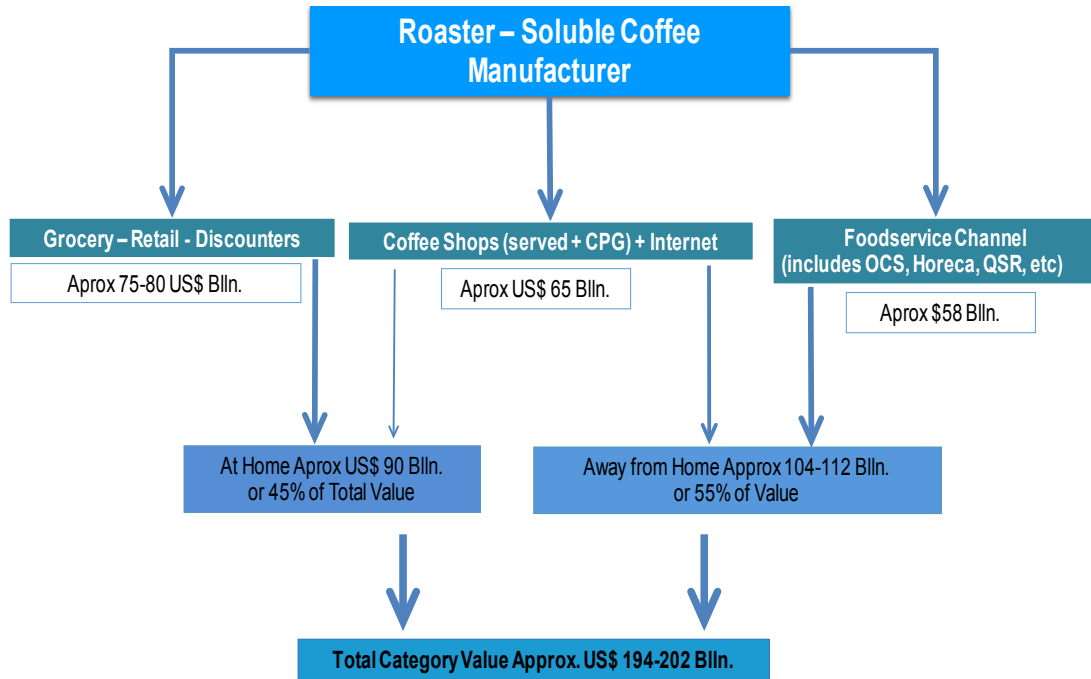
To begin, we estimate that the total category value at consumer prices probably surpassed \$200 billion by 2015 based on industry sources, previous ICO studies (ICO 2014) and Euromonitor category value growth calculations (Euromonitor b,c

2016,2017)⁸. Of this total, the at-home consumption accounts for around 45% of total category value (see chart 5) equivalent to around \$90 billion. This figure includes high volume mainstream and low value roasted brands (about \$34 billion) as well as lower volume high quality packaged coffees sold at grocery outlets, coffee shops and internet channels (about \$15 billion), higher unit value instant coffees (about \$28 billion) and single serve presentations (PODS or Capsules such as those sold by Nespresso or Keurig brands, for about \$13 billion).

The total value of coffees sold through distribution channels focusing on away-from-home consumption show very different proportions when comparing with volumes sold. Total sales of coffee shops are estimated at \$65 billion, almost a third of total industry value. A high proportion of these sales include coffees sold for in-shop consumption, whose costs of goods sold include items such as wages, leases, and inputs other than coffee. Similarly, coffee sold for foodservice consumption in many instances comprise services such as the coffee brewing machine provision or other complementary products and services. Clearly in the away-from-home environment green coffee costs play a less significant role in the overall cost structure, while the quality and the degree of sophistication of the consumer experience become more important in the overall offering.

⁸ Our estimates in this section are based on Euromonitor 2017 and ICO 2012, ICO 2014 and ICO ab 2016 and conversations with market players among other sources. They intend to show the relative importance of the different channels rather than provide an exact distribution of volumes and values.

Chart 5
The Global Coffee Industry
Value Distribution by channel 2015

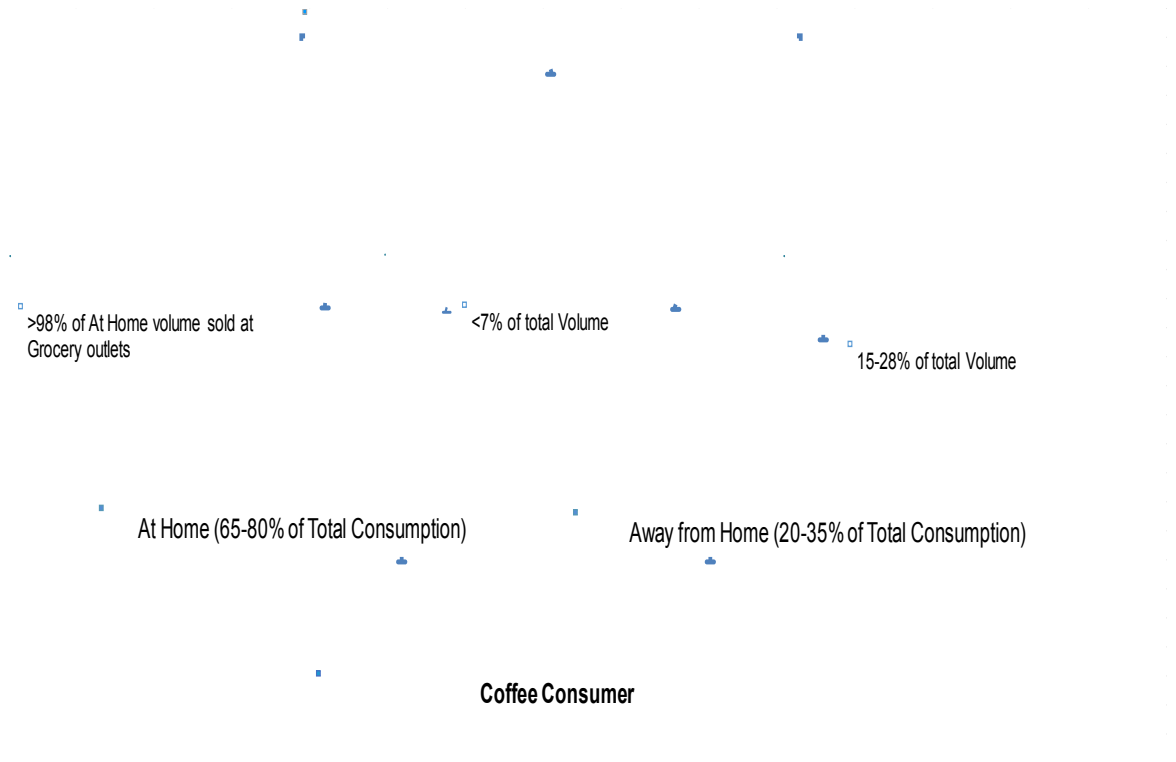


Source: Authors' calculations based on ICO, Euromonitor and Trade sources.
 Chart intends to illustrate gross proportions only and not an exact distribution

From a volume perspective, we start with a total world consumption equivalent to approx. 155 million 60-kilo bags of green coffee according to ICO. Although figures vary by country, culture and sources, it can be said that between 65-80% of the world's coffee consumption takes place at home, mostly in the morning (see chart 6). Most coffee consumed at home is purchased through the traditional grocery/supermarket channel, which is a fiercely competitive environment as grocery retailers are highly concentrated⁹. In contrast, out of home occasions account for up to 35% of total volume consumption, of which high volume venues in the institutional segment sell a high proportion.

⁹ According to the NCA's National Coffee Drinking Trends Study, just between 4 and 6% of coffee purchased in the US for home consumption comes from coffee shops. Figures are not consistently tracked or publicly available for most markets.

Chart 6
The Global Coffee Industry
Volume Distribution by channel 2015



Source: Authors' calculations based on ICO, Euromonitor, Hivos and Trade sources. Chart intends to illustrate gross proportions only and not an exact distribution

1.3.2.1 At-Home Consumption

A significant share of the overall industry volume depends on soluble and roasted coffees sold by high volume brands and their local and regional competitors in grocery channels (which include grocery as well as mass merchandisers, drugstores, mom and pop shops or convenience stores) for at-home consumption.

These coffee offerings are sold at very competitive prices and have a key influence in the global coffee value chain. Their pricing and procurement strategies depend to a large degree on the competitive pressures they face in a distribution channel that has experienced significant consolidation over the last few decades. For example, the top 5 retailers in 12 European countries account for over 50% of total food sales, while in the US just 4 retailers had nearly 50% market share (OECD 2013). Thus, large retailers like Walmart, Kroger, Tesco or Casino exercise a significant market power on roasters through both their purchasing policies and the competition with their own grocery retailer private coffee brands. Major coffee brands are therefore forced in many occasions to compete with low unit value prices and lower qualities, reinforcing their practice of using blends as opposed to single origins to minimize costs.

The high proportion of the total coffee sold in the grocery segment) and its powerful position in the chain, support the *market driven* governance view of the GCVC. Under this type of governance prices are the main qualifier of the business transaction and competitiveness focuses on efficiencies. Therefore, in the grocery channel, big, well-known brands are present with wide distribution and significant advertising investment, and economies of scale efficiencies tend to dominate. The few successful regional and premium brands that are sold in this channel cater to less price sensitive consumers, while big companies and major roasters that can leverage their high volume efficiencies are more resilient in this distribution channel. Chart 7 shows that seven companies account for nearly 40% of the volume sold in grocery retail mostly intended for at-home consumption. Adding the grocery store owned brands, this share increases to nearly half of total world volume sales. In terms of value, the dominance of the top seven market players is more significant, increasing to nearly 46%.

Chart 7
Share of Major Roasting Companies present in Retail Grocery Channel¹⁰

	Top Roasting Companies in Grocery Retail by Volume			
	Volume		Value	
	%	Cum	%	Cum
Nestle*	13.14%	13.1%	22.22%	22.2%
JAB - Jacobs Douwe Egberts**	10.99%	24.1%	11.29%	33.5%
Strauss	4.20%	28.3%	1.96%	35.5%
JM Smucker Co, Folgers Coffee	3.75%	32.1%	2.54%	38.0%
Lavazza SpA, Luigi	3.06%	35.1%	3.32%	41.3%
Tchibo GmbH	2.30%	37.5%	2.22%	43.6%
Kraft Heinz Co	2.05%	39.5%	1.93%	45.5%
Private label	8.94%	48.4%	7.4%	52.89%
Others		51.6%		47.1%
Total	100%	100%	100%	100%

Source: Based on Euromonitor - Authors Calculations

* Includes Nespresso, Dolce Gusto and other Nestle brands

** Includes Jacobs, DE, Keurig, Peets, Caribou and Cacique Soluvel (recently announced)

The higher value-than-volume shares of key market players in chart 7 can also illustrate recent dynamics in the coffee category. Nestle value vs volume share (22% vs 13%), is explained by its massive presence in the higher unit-value soluble coffee segment, where it is by far the leader in sales thanks to its strong Nescafe brand¹¹. The higher value vs volume share of this company is also explained by its successful single-serve capsule business, where Nespresso¹² and Nescafe Dolce Gusto brands play a significant role. Other single-serve brands associated with technology that contribute to increase the value/ volume share ratio include Keurig, and the JacobsDouweEgberts brands Tassimo and Senseo, all owned by JAB.

Lower value than volume shares reflect highly competitive prices, found usually in the roast and ground coffees sold in grocery outlets. This is the case of grocery owned private label brands and major brands such as Smucker’s Folger brand in the United States or Germany’s Jacobs brand, also owned by JAB.

In summary, the underlying competitive dynamics that these big 7 companies face in the consumer packaged goods segment is reflected throughout the value chain.

¹⁰ We have not included in the total market the estimated the non-coffee volume and value content of major 3x1 players in Asia Pacific market. We estimated for these brands a 23% coffee weight (based on roasted coffee) and 63% coffee value content.

¹¹ According to Euromonitor Nescafe is clearly the dominant soluble brand with a share in total Retail Value sales of the instant category of over 44%.

¹² Although Nespresso distribution system does not necessarily correspond with a traditional grocery retail brand, it has been recently reported that it will start selling aggressively in this channel (Gretler, C & Weiss, 2017).

The pricing of their green coffee intake is mostly based under a commodity market logic, using the New York (for Arabica) and London (for Robusta)¹³ coffee futures exchanges. As some authors have noted, the transaction volumes made through the futures markets by the large market actors also take place under competitive conditions and do not necessarily affect overall pricing trends (Gilbert 2007). In this sense raw material pricing becomes very competitive and big companies exert significant pressure on their importers and exporters to transfer any efficiencies into their green coffee price quotations in order to obtain similar prices and savings that their main competitors enjoy.

1.3.2.2 Away-from-Home Consumption

Away-from-home consumption may take place in foodservice channels (around 24% of world consumption) and through coffee shops (up to 7% of world's consumption) at higher price points¹⁴. The coffee shop segment is a high-visibility channel, where most high value brands and innovation takes place, although it only accounts for a limited portion of overall volume. In this segment quality, differentiation and consumer experience play a very significant role. The away-from-home locations accounting for the most substantial volumes are described as the foodservice channel, which includes Office Coffee Service (OCS), Hotels, Restaurants and Cafeterias (Horeca), Quick Service Restaurants (QSR) and other outlets selling or providing coffee in large volumes such as airlines or hospitals. Although high-end and higher quality brands are also part of foodservice channels, most volumes are sold in very competitive environments where operators have to deliver high volumes with reliable services, also supporting the conditions for a market driven value chain governance.

1.3.3 Roasters and Soluble Manufacturers

The activity of "roasting" involves applying heat to green coffee beans (single origin or blends of different origins) through relatively simple or highly sophisticated methods to obtain whole bean or ground roasted coffee, or, through additional processes, to obtain freeze-dried or spray-dried soluble or instant coffees. Sophisticated master roasters would apply different roasting curves and techniques using a variety of roasting technologies and equipment. Their roasting "recipes" are adapted to specific regions or blends to obtain particular flavor profiles, and roasted coffees are usually ground according to certain specifications to optimize beverage extraction. Large industrial roasters will work with standardized green coffee quality specifications, roasting their coffees with their own protocols. The degree of roast and of grind particles will also be defined depending on whether the final coffee is to be used, for example, for espresso beverage preparation or filtered coffee brewing.

¹³ Two coffee species dominate the world trade: Arabica, has a milder flavor, it is more expensive to produce and its trees are more vulnerable to pests and diseases. It is traded in the New York Intercontinental Exchange (ICE) and referenced by its contract name "C" for coffee. Canephora or Robusta, is less expensive and is generally considered of lower quality. It is traded in the London International Financial Futures and Options Exchange (LIFFE).

¹⁴ Specialty coffee shops are a channel for in store and at home consumption. Other specialty /differentiated coffees are also sold through internet, foodservice and grocery store channels.

Roasted coffees are then packed and shipped to relevant distribution outlets. When coffee is roasted and ground it becomes very vulnerable from a quality stand point, as it easily absorbs undesired odors and can become contaminated, affecting its taste and aroma. In addition, roasted coffee attributes can easily fade once it enters in contact with oxygen, leading to a shorter shelf life and the need to package it with controlled atmosphere techniques to maintain the original quality profile. This is the reason why freshly roasted coffees are an integral part of the value proposition of certain brands¹⁵ and why many consumers prefer to buy whole bean coffees and grind them at home just before brewing. On the other hand, both the evolving packaging technologies and the ability to compete with exotic or sophisticated brands have demonstrated that certain consumers are willing to sacrifice a fresh whole bean approach for other types of value propositions, as the global success of Italian brands or Nespresso capsules have demonstrated.

Producing soluble coffee requires additional steps after roasting, which include obtaining a coffee extract, which is dried by evaporation (spray drying) or sublimation (freeze drying). The freeze-dried method is more expensive but is better for conserving quality. Although these methods were developed decades ago, different innovation techniques that include the novel use of green coffees in the process or micro grinding are now part of significant developments in the soluble category. In addition, soluble manufacturers favor the use of Robusta coffee due to its better extraction rates, which lead to lower needs of raw materials and lower costs per unit of final product. Finally, the shelf life of soluble coffees is much longer.

Apart from the lower brand equity of producing country brands, the more difficult access to highly competitive grocery distribution channel, the shorter shelf life and the more expensive packaging technologies help to explain the traditional small share of roasted coffee exports from coffee producing countries. On the other hand, exports of soluble coffees from producing countries have reached around 8% of the world's total exports by volume. Brazil, India, Vietnam, Ecuador, Colombia and Mexico account for over 90% of soluble exports by coffee exporting countries. These players have taken advantage of the longer shelf lives and the access to less expensive raw material to become important players in the soluble industry. However, as pointed out in section 1.2, their coffees are mostly sold under third party or private label brands, limiting their ability to capture more value. In fact, some argue that this economic upgrade possibility by producing countries has limited effects due to the restricted distribution outlets based on the private (grocery-owned) label segment (ITC 2012).

In general the number of soluble coffee manufacturers is more limited than the number of roasters. In this industry capital investment and economies of scale play a significant role to establish a soluble coffee facility. In this category, the Nescafe brand is by far the world's dominant leader, competing with different local soluble brands and private label manufacturers located mostly in Germany (DEK, Otto Suwelak) and in coffee producing countries.

¹⁵ See for example <https://bluebottlecoffee.com/>. Nestle recently acquired a majority stake in this company.

From an intangible perspective it can be said that “roasters” (including branded soluble manufacturers) perform 3 basic activities where intangibles are at play: (i) the industrial activity associated with blending and processing the green coffee raw material they receive from producing countries, with varying degrees of sophistication, using trade secrets (the specific blends and/or roasting curves they apply) or sophisticated technological innovations (such as those present in the single serve or micro grinding technologies). (ii) Distribution, where knowhow and economies of scale can be competitive factors and (iii) branding, where emphasis and importance will vary according to the market segment they target. For example, in the Horeca segment distribution will play a bigger role than brands, whereas in coffee shops brands play a very significant role in value generation and capture.

Producing Country Roasters and Markets

According to the ICO, nearly 30% of the world's coffee production is consumed in coffee producing countries, a share that is expected to grow in the next few years. Producing country coffee roasters and instant manufacturers vary in their degree of sophistication. They usually enjoy a significant share of their local markets over multinational brands¹⁶. Green coffee beans find their way to local roasters and instant coffee manufacturers through different procurement strategies. As large industrial operations require standardized qualities, mainly coops, exporters and other traders that operate dry mills are in capacity to prepare and deliver large green coffee parcels according to local roaster specifications. Thus, the value chain for most of the local consumption is also characterized by a market driven governance and does not differ significantly from the green coffee that is exported. Another value chain format is Farmer direct trade to local roasters and coffee distributors, but it is still marginal in terms of volume and focuses in small roasting operations, high-end specialty shops and sophisticated white table restaurants.

1.3.4. Importers

Most of the world's consumption takes place in so called “importing” countries. The vast majority of these coffees are sold as green coffees from exporters to importers that provide procurement, financing and logistical services to international roasters. Once green coffees from different origins and qualities arrive at consuming countries, they may be stored by importers at destination in warehouses, be blended in special purpose silos or brought directly to roaster's facilities. Roasters also rely on importers because of their owned-exporter networks, their better access to information on possible difficulties in terms of availability, quality, logistics or the regulatory issues that can arise in the often complex North-South commerce.

Given that green coffees can also fade and lose some of their desired characteristics if they are stored for long periods, “just in time” techniques that reduce inventory and financial costs are favored by the main roasters. Controlling available raw material inventories at destination markets and simplifying procurement logistics are just a portion of the services that large roasters now require through “Vendor Managed Inventory” (VMI) procurement systems. Thus, importers have become an increasingly important player in the coffee industry as roasters demand that they provide a more complex set of services on their behalf.

¹⁶ While Nescafe is can be described as a dominant global brand in the soluble category, it is more difficult to find dominant roasted brands that can be described as global. Starbucks, whose overall volume share is still small in global terms, is an exception. In a few countries like Brazil (in both the roasted and soluble category) coffee multinationals have a significant presence by acquiring local brands.

1.3.5 Coffee Exporters

Green coffee exporters buy coffee directly from growers, coops or local traders in domestic markets at different stages. Transactions costs and price risks to procure coffee can be significant depending on the region and the longer term exposure to price changes that exporters usually commit to with their clients. Exporters can buy coffee at the cherry stage¹⁷ (before wet-milling for washed Arabica coffees), at wet or dry parchment stage (before dry milling or hulling) or at green coffee stage (after dry-milling) and sell the product at a green state. How and whom they buy from, however, would depend on the exporter procurement strategy or on local conditions. Transactions can also be arranged by organized auctions (still used in East Africa buy quasi-government agencies) or under local free market conditions. Most coffees from individual small farmers are blended and homogenized before shipping, losing their specific “grower identity”. Large coffee farmers and certain grower coops have become coffee exporters, although the trade is mostly dominated by exporters wholly or partly owned by international importers.

Homogenization mostly takes place through the dry milling process. When dried parchment coffees are transacted, the parchment surrounding the seed must be removed by mechanical means by a process known as hulling or dry-milling to obtain the green beans to be roasted. This is the last stage that takes place in producing countries and is usually performed by coffee exporters, coops or other actors. During this process, larger volumes of green coffees are selected by density, size and color with specialized machinery, to comply with the quality definitions and standards set by clients, usually importers and industrial users. The resulting green coffee beans are packed in burlap bags or in bulk and shipped in sea containers to overseas markets.

To compete, exporters need ample finance for a highly-leveraged business and sound price and exchange rate hedging strategies. It is a low margin and repeat business for large volumes of standardized coffees that can account for over 85% of transactions (ITC 2012). Their operation also requires agility to buy and sell coffees efficiently through international and local business partners to reduce financing costs, and a network of procurement agents to spot market opportunities. Exporters also need to be well versed in contractual and technical requirements, including specific quality definitions. Most exporters sell green coffee on Free On Board (FOB) conditions at local seaports to importers, and to a certain extent directly to roasters, supplying qualities graded according to business specifications.

¹⁷ Coffee trees produce coffee cherries. The seeds of these cherries are known as green coffee beans. Thus, separating the actual green bean that is roasted from the pulp and the parchment that surrounds it requires additional post harvesting activities. These activities, depending on the type of coffee and its quality process, are known as wet (for washed Arabica coffees) and dry- milling activities.

1.3.6 Coffee Growers and coffee Farming

Coffee farming is a complex business. By planting a perennial tree, the farmer is committing him/herself to an investment that can easily last more than one decade. This long term investment starts with a major decision: selecting the right coffee tree variety. These are mainly “dwarf” varieties that also facilitate the harvesting process, with trees that must be stumped every 6-10 years to maintain their high yields. Traditional plantations may last much longer and consist of taller trees with lower yields that require less inputs and maintenance costs. The increased concern of the low resistance of the higher quality Arabica species to climate change and the evolving threats from pests and diseases have attracted the attention of industry players to sponsor new variety and hybrid developments in order to reduce the possibilities of supply shocks.

Like most agricultural products, coffee is highly dependent on weather and in particular rain patterns and seasons. After coffee trees are approximately 2 years old, they start producing flowers that, after pollination, become cherries. The coffee tree flowerings usually surface after a hydric stress, (i.e. a period with dry conditions followed by a wet or hydric shock). The plant reacts to the newly arrived wet conditions by producing flowers to maximize its chances of reproduction. Thus, simultaneous flowerings take place with the arrival of rain seasons in the northern and southern hemispheres of the tropical world based on local weather patterns. In the northern hemisphere, rains tend to arrive during the first half of the year, and in the southern hemisphere in the second half of the year. While it must be noted that there are plantations using artificial irrigation, particularly in certain areas of Brazil, which can help provoke flowerings, most coffee farmers in the world still depend on rain and climate cycles for their coffee production.

Concentrated rain cycles and flowerings imply that harvests tend to be concentrated in certain periods of the year. Since it takes between 200 and 260 days from flowering to collect the mature coffee cherries, in producing regions north of the equatorial line, such as in India, Vietnam or Central America, harvests tend to concentrate towards the end /beginning of the calendar year, while south of the equator, (in Brazil or Peru) harvesting usually takes place six months before (or later). Countries located close to the equatorial line, such as Colombia, may have two distinct rain seasons within the same year, leading to two separate harvests, even in the same farms in certain areas of the country.

Harvesting is coffee production’s biggest cost, accounting for up to 70% of total costs. It tends to be a labor-intensive process in most countries, although there are successful mechanized harvesting methods for regions that have or can induce concentrated harvests in topographies where machinery can be used. These developments also tend to be concentrated in Brazil. Due to rising wages, rural-urban emigration and aging coffee farmers, finding innovative solutions for coffee harvesting and sorting is one of the major areas of innovation expected in the next few years.

Once the cherries are mature and collected, the seeds or coffee beans are separated from the cherry. This can take place by leaving the cherries to dry (the so called natural post-harvesting process) or by de-pulping and applying water to clean the bean from cherry residues (the wet post-harvesting methods). Thus, both Arabica and Robusta beans may be sold as washed coffees, which are more common in Arabicas and are usually recognized as more expensive coffees. These post-harvesting processes may take place at the farm or in wet or washing stations owned by local traders, exporters or coops. After coffees are washed, they are dried in silos or by natural means. Thus, farm-gate prices may be based on different coffee states: Growers can sell cherries,

wet and undried coffees or dried coffees, and all of them can have different intrinsic qualities, leading to difficult to ascertain prices and premiums for each parcel of each state. Given the high volatility of coffee prices and the low volumes transacted by an average coffee growers, transaction costs, particularly price discovery and logistical unit costs, can be significant to farmers. This can mean profit opportunities for local traders as the prices for different coffees may become less transparent in isolated areas.

1.4 An Evolving Coffee Landscape

Since a large portion of the world's consumption takes place at home and is distributed through grocery store outlets, major brands selling in the grocery channel account for a significant share of total volumes sold. This market segment represents the "*conventional*" or "*first wave*" of standardized qualities and large distribution networks that led coffee to become a staple beverage sold for at-home consumption. For this segment, as is the case in many other North-South products, the GCVC has been traditionally analyzed as a buyer/market driven chain where lead firms, namely grocery retailers or large roasters, define the conditions under which other actors in the chain operate.

The opportunities for differentiation generated by the stagnant conventional segment and the liberalization of the coffee trade provided an opportunity for differentiation based on higher quality. The so-called "Starbucks Revolution" or "Latte Revolution" (Ponte, 2002) was the cornerstone of coffee's "*second wave*" of "*differentiated*" coffees in North America (Shultz and Jones Yang 1997, Reina et al 2007) that soon began to influence countries all over the world. The low prices resulting from the immediate post International Coffee Agreement (ICA)¹⁸ years, the increased consumer interest in different ways to enjoy coffee, along with an increasing availability of diverse coffees fueled the specialty coffee segment. This led to more interest in higher quality coffees and in new consumption formats in different countries under specialty coffee chains like Costa Coffee (UK) or Coffee Day (India). Euromonitor estimates that as of 2016 the world had nearly 112,000 specialty coffee shops and Starbucks continues to be the largest and distant leader in the category with over 25,000 locations worldwide.

However, these new segments associated with material quality, symbolic quality and service quality (Daviron and Ponte 2005) that focused on superior beverages made from sophisticated blends and were sold in higher-end environments tended to stay away from the producers' world. Coffee's substantial social and economic role, and the income disparities made explicit by the tough conditions that coffee farmers faced at the beginning of the century due to the lowest real green coffee prices on record, attracted the interest of the industry and the public sector (governments, development agencies, and NGOs) to the work of the VSS. As new eco-labels using trademarks and licensing agreements became more prevalent in the coffee category, they drew interest from brands, roasters, and retailers for their potential to increase prices paid to growers and potentially improve other social, environmental, and economic conditions. As a result both importers and exporters were required to provide VSS coffees to roasters, which resulted in their involvement in developing longer term sustainability programs for farmers at origin.

¹⁸ The world coffee trade was heavily regulated by an International Coffee Agreement (ICA) that assigned export quotas to different producing countries. This regime was in force until 1989. For most of the 1990s and early 2000s green coffee prices were very low as producing countries sold their accumulated stocks

In parallel, the growth of specialty coffee chains together with a new price cycle of higher green coffee prices as from 2005 brought additional challenges to coffee shop operations. To face a growing competition in the coffee shop segment, operations and procurement required standardization, in some cases at the cost of the consumer experience associated with coffee crafting and preparation.

As a result, a new segment known as the “*third wave*” or “*experiential*” coffee segment became part of the industry landscape, dominated by independent coffee shops and baristas that put increased emphasis on the coffee itself, its procurement, knowledge and a variety of brewing techniques. Third wave coffee establishments highlight the knowledge and artisan techniques that each coffee entails, providing additional content in all consumer interactions. Under the third wave a trendsetter “Barista movement” began to take hold, with high presence in social and digital networks. Knowledge sharing through a new coffee community of coffee enthusiasts began to take hold, with national and international barista celebrities that, through national and international contests and social networks, highlighted the diverse qualities associated with beverage preparation.

Third wave coffee outlets still have a marginal impact in terms of total coffee volume sold through mainly independent and sophisticated coffee bars. However, they have a significant influence and have created trends in the rest of the coffee category. For example, their focus on single origins, transparency, direct trade farm relationships and deep product knowledge is a key success factor to attract the new generations of millennial consumers looking for authenticity and self-gratifying experiences in other segments and has reduced the growth of VSS coffees. Third wave coffees require a higher degree of specialization for roasters, importers, exporters and farmers. It also creates the possibility of unique bonds between producers and the influential “artists, baristas, and servers”.

In this experiential segment a relational value chain governance is more prevalent, as the experience provided to consumers relies heavily on the content associated with the origin of the coffee and the direct trade relationship with farmers, as well as the crafting, innovation and quality that justifies additional values. Also, as brand values become more complex and sophisticated and require transparency, quality and knowledge, an opportunity for farmers to sell their own coffees with their own branding and or having the origin of the coffee surfaces as a key point of differentiation.

In summary, the global coffee industry is a typical case of a North-South commodity product where most of the value is created and kept by large players deploying technology and brand intangibles close to consumer markets. The dominance by these traditional industry actors is exercised through a market driven value chain where importers and exporters efficiently transmit market signals and industry requirements from large players. This state of affairs, in a context of increased farmer vulnerabilities and challenges, is putting into question the ability of producing countries to provide coffee's future consumption needs. As coffee demand and distribution channels evolve, and new business models that focus on grower-retailer cooperation begin to take hold, an opportunity may be arising for the development of supply and demand side intangibles that create additional value to the industry as a whole. This might be the case of the trendsetting third coffee wave with its focus on coffee origin and direct trade with farmers, which can alter the governance of the coffee value chain for players in this segment from a market driven to a relational model.

We now turn to discuss the role of intangibles for the different actors in the different coffee waves, as well as the challenges the coffee industry faces and where intangibles are already playing a role to overcome them.

Chapter 2: Intangible Assets in Coffee Supply and Demand

Intangible assets are the most important source of value in the modern economy. The ability to differentiate, generate margins and maintain client loyalty are symbolized by brands (trademarks) and other distinctive signs such as certification and collective marks or Geographical Indications. Innovations, technology, industrial secrets, business models and know-how are also part of valuable intangibles that can determine the ability to remain competitive or ahead of the competition. Although a number of intangibles may be registered under intellectual property instruments, the ability to create and extract value from them mostly depends on the capacity of their owners to efficiently manage them and extract their full potential.

In this chapter we describe the most significant intangible assets at play in the coffee supply and demand context and their possible role to overcome some of the challenges the industry faces in terms of farmer profitability and climate change. We also explore how intangibles may play a role in determining the value chain governance and the ability for growers to create and capture more value.

2.1 The Supply Side Intangibles and Challenges

Intangibles can play different roles for different market actors. The capacity to use intangibles in many agricultural commodity industries is often limited by a number of considerations that include economies of scale, farmer governance, availability of funds or the capacity to develop an intellectual property strategy. As farmers often rely on public goods being offered by local government entities or funds from cooperation agencies, the ability to leverage the resulting intangibles from different projects is often ignored.

In this section we review some of the formal intangibles at play and the roles and restrictions of key market actors from the supply side. We also describe the significant challenges that supply chain actors face, which affect producers that sell to conventional, differentiated and experiential segments and have resulted in a more concentrated and vulnerable supply. As significant change in current conditions would depend on the ability to alter the current GCVC governance structure, we also review the role of certain actors in the value chain, notably importers, as key actors to promote or deter change in the coffee industry.

2.1.1. Intangibles at play

There are a number of intangibles that can be used in coffee production. Formal registrations of new Coffee Varieties as well as harvesting, post-harvesting, dry milling and grading technologies and tools are being used by relatively few market actors in producing countries. Chart 8 describes 22 different activities and actors associated with coffee supply where intangibles could be at play

**Chart 8
Supply Side Actors and Activities**

RAW MATERIAL PRODUCTION AND PROCESSING			
Farmer	Farmer/Producer Organizations - Government Agencies, Agrochemical manufacturers	Local Traders, Exporters, Farmer, Organizations, Coops, Manufacturers of Harvesting and Post Harvesting technologies	Exporters, Importers, Coops
	Production	Grading	Procurement
	Coffee Farming	Harvesting and Post Haversting	Raw Material Storage and Transportation
	1. Soil Technologies and Preparation 2. Seeds/Hybrids/Plant Varieties Planting 3. Technologies Propagation techniques 4. Plant Genomics 5. Seedling Technologies 6. Pesticides - Biopesticides	7. Harvesting Machinery 8. Harvesting tools 9. Optical - Selection 10. Residues Management 11. Desmucilagador 12. Drying Technologies 13. Wet Process Technologies 14. Selection Technologies 15. Fermentation Measurement	16. Conservation/Storage Techniques 17. DryMilling 18. Weight Loss Measurement 19. Moisture Measurement Container 20. Filling Techniques 21. Raw Material Packaging 22. Treatment - Cleaning plants

Source: Authors

Given that many of these technologies would be primarily used in less developed countries where coffee is produced and that most of their users are farmers, obtaining and enforcing IP rights for some of these innovations is often challenging.

Also, key supply side actors such as farmer organizations or governments view themselves as public goods providers, which limits their interest in formal IP registrations. However, certain technologies for milling and packing and shipping technologies and methods are found in patent registrations with different strategies.

For example, there are importing-country-focused enforcement strategies for supply side technologies such as bulk coffee-packing techniques and products, known in the industry as coffee liners, which are used at exporting country ports but are patented in importing countries. Scandibag, a coffee liner technology originating in Brazil has successfully implemented this IP enforcement strategy. By notifying importers or roasters of its US and European patents, industry members required IP rights compliance from the exporters from almost all origin countries.

Apart from the possible role of intangibles in certain processes and activities, other intangibles associated with copyrights or distinctive signs are also at play in a supply side context. As direct trade and VSS have become part of many business models, databases that support traceability methods have also become more important for certain segments of the coffee industry. Other forms of copyrights are also relevant when creating exclusive content in farm environments to support the commercialization and image of certain products or brand offerings. Also, there have been arguments on whether the use of certain information included in the databases, as well as the farmer name and image for advertising and promotion, may infringe the image and privacy rights of individual farmers.

Distinctive Signs, notably Geographical Indications and Certification Marks can also be used by farmers and their organizations. Certification marks and trademarks are also used by VSS agencies as seals of compliance with their defined certification guidelines. Individual farmers or farmer associations and some exporters can also use trademarks to brand green or processed coffees.

As we will see in the next chapter, some of these instruments are already being used by farmers and exporters. However, they will need to adapt to the business models and business strategies as well as the challenges and governance limitations that many supply side actors encounter in order to create value and alter the bargaining position of supply side actors. Before doing so, it is also useful to review some of the challenges and limitations being faced on the supply side to review where intangibles could add more value.

2.1.2. A set of increasingly complex farmer challenges

As is the case for many agricultural commodities, the coffee industry is in search of a sustainability model that would ensure the long-term supply and farmer profitability. The overall situation of producers, with some exceptions, continues to be vulnerable and uncertain in the face of climate change, price instability and rising costs (ICO 2016, World Coffee Producers Forum 2017). Clearly, vertical integration and farmer economic upgrade options can include a successful implementation of intangible strategies. However these options would need to take into account the conditions and challenges that many coffee growers face.

In chart 2 of the previous chapter we summarized some of the challenges coffee growing faces. Some of them are derived from low profitability, which limits the ability to reinvest in new trees or attract young people to the industry, while others derive from a complex structure of small land-holders with a low bargaining position before the next actor in the value chain. These structural challenges usually result in high transaction costs for farmers and arise from at least two factors:

First, the average farm production is too low to accommodate efficiencies in wet and dry milling, packing and transportation. Currently the average coffee farmer in the world produces the equivalent of just about six 60-kilo bags of green coffee per year, whereas a full 20' container load of green coffee usually carries the weight equivalent to 290 60-kilo bags. Clearly, the economies of scale for logistics imply additional coordination, consolidation services and higher unit costs for those farmers that want to export their own beans directly.

Second, the concentrated harvest cycles in most producing countries imply that the bulk of farmers' income is also concentrated in certain months of the year, while at other times there might not be significant alternative sources of income. The cash needs required during the so called "lean" months may be covered by loans, usually not readily available to small farmers, by savings or by cash advances by prospective buyers. In many cases these cash advances may be provided with very onerous implicit financial costs that are charged in the farm gate price finally negotiated.

Other high transaction costs faced by small coffee farmers include high price-discovery costs, as relevant local price references might be not known, are not easily converted into local currencies and/or the quality premiums or discounts applied by buyers for the specific coffees being transacted may not be transparent. These vulnerabilities are compounded with high price volatility, lack of competition among buyers in local producing communities, lack of bargaining power due to the small volumes transacted, severe liquidity needs and high transportation unit costs. In addition, the lack of understanding of what constitutes high quality may lead to wrong price incentives and inefficiencies for local buyers and sellers.

Another challenge is related to the scale that large conventional brands require. Large coffee volumes bought by big roasters imply considerable efforts in terms of financing, procuring, dry milling and standardizing according to specifications. Given that most farmers are small, one single container would normally have the mixed production of an unknown number of growers that sold their coffees with different qualities at different farm gate prices in different moments of time. Therefore, developing the appropriate farmer cooperation tools and institutions are a key success factor in order to sell to medium and large customers from a group of farms, coops or grower associations.

Pricing systems in conventional markets are another practical challenge. The exporter will price his consignment against the relevant future coffee exchange at the time of his choosing under a Futures contract Price-to-be-Fixed basis. The roaster will do the same, which means that final pricing can be determined independently. Under this system, the roaster does not necessarily have a way of knowing the final prices exporters received, let alone those obtained by the farmers whose coffee was part of a particular shipment. Similarly the exporters and growers may not know the final purchase price paid by the roaster. In that sense both buyers and sellers are price takers, and transactions are made independently as if they were done in different markets (Gilbert 2007). To overcome these limitations major actors are integrating requests for more transparent information in order to fulfil their information needs related to risk management, traceability, ethical sourcing (e.g. labor and livelihoods), and sustainability.

Although coffee price and exchange rate volatility are risks that all actors in the coffee chain face, farmers are in the most difficult position to use market mechanisms to deal with them. Even if these tools were available at local level, future prices and options have a low market liquidity for long term positions, which are those that farmers are implicitly taking when investing in a plantation that will last for up to 15 years. Exporters, importers and roasters face much shorter business cycles and have the capacity to hedge their risks more efficiently or unload some of them with other actors.

Aging farmer populations, evolving labor regulations and the inability to get younger generations willing to work in the harsh task of coffee growing and harvesting are another limitation for expanding supply. While this trend is not unique to coffee in the agricultural world, the challenge of increasing labor productivity in mountain areas with difficult topographic conditions where high quality coffees grow are significant.

Environmental limitations and regulations, which have increased as a result of climate change and climate variability, are another factor to consider. In this sense the ability to produce coffee in the same areas, provide adaptation strategies through new varieties or farming systems or reduce water and irrigation demand are just some of the challenges in this area. Also, a changing climate creates more crop risks and a higher incidence of pests and diseases, reducing profitability.

The changes in the environment and the resulting increased presence of pests and diseases are one of the most serious the coffee industry needs to confront. It is worthwhile to review past and present efforts in this regard.

Climate change adaptation through new varieties

The challenge of climate change adaptation requires different strategies. Most are associated with the development of more resilient vegetable varieties. However, there are only 17 new coffee varieties currently registered before International Convention for the Protection of New Varieties of Plants (UPOV)¹⁹. Although it must be noted that national authorities are under no obligation to share domestic plant variety registrations before UPOV so the number of registrations and applications may be much larger, most coffee farms in the world are planted with traditional and well known varieties.

Varieties and species vary according to the locations where they are grown and how best they adapt to local conditions. Coffee trees belonging to the *Canephora* species (commonly known as Robusta) are more productive and, given their longer evolution under the tough tropical conditions of the African lowlands where they originated, were able to develop more resistance to pests and diseases. In contrast the Arabica species, which constitute over half of the world's production, is much younger in evolutionary terms and needs milder environments, usually associated with higher altitudes prevalent in the mountains of East Africa where it originated. Arabica genetic diversity is another challenge: Scientific research (Wellman, 1961) has shown that most Arabicas currently planted in Latin America come from similar origins, which means that current Arabica plantations have less genetic diversity and are less prepared to combat diseases and pests. This has led to efforts to develop more resilient Arabica varieties. Major players in this endeavor includes Coffee Research Institutions from producing countries (Catie, Cenicafe, Instituto Agronomico Carvalho, among others), nonprofit organizations (World Coffee Research, CIRAD) and some multinationals (Ecom, Starbucks, Nestle). Many of them now use sophisticated tools based on genomic information to select the traits of interest for traditional variety development²⁰.

The differences on how Robusta and Arabica species reproduce have also affected their genetic diversity. Arabica trees –self-pollinate, which means that, one can establish an Arabica coffee plantation with a single seed, and the resulting coffee tree can reproduce independently. Thus, the genetic diversity of most of the current Arabica plantations is quite limited, making them more vulnerable. On the other hand Robusta trees cross pollinate, which means that they need to interact with other coffee plants from the same species to reproduce. Thus, genetic diversity is a key area to explore in order to find the desired traits that would allow coffee trees to adapt or withstand climate change. However, accessing more genetic material from Africa has become a significant challenge as international and local regulations have made it more difficult and because in certain countries the much sought after genetic diversity is disappearing with unique wild Arabica trees due to deforestation.

In the meantime, most of the traditional varieties currently planted have not significantly changed for decades and are considered part of the public domain. Robusta and Conillon are the most common *Canephora* varieties, while Arabica trees have a wider array of varieties. They include commercial varieties that originated in eastern Africa and traveled to other producing countries, such as Typica, Maragogipe, Geisha or Bourbon, and a significant number of varieties often developed by research institutions in developing countries for their specific environments, such as Brazil's Catuai, Caturra, Mundo Novo, Colombia's Colombia, Tabi and Castillo®, Kenya's Ruiru 11, Costa Rica 95 or Honduras' Lempira²¹.

¹⁹ According to the UPOV Plant Variety database.

²⁰ Because of consumer reluctance there are no genetically modified coffee plants in commercial use.

²¹ For a helpful summary of Varieties available in Central America and their property rights see World coffee Research (2016)

From a variety protection and enforcement perspective it is useful to recall coffee trees can last for decades producing seeds for the next generation of plants. This usual practice limits the ability to control the actual origin of the seeds in a highly fragmented grower market, making it difficult for the owners of a registered varietal to protect their intellectual property. Only relatively recently, has hybrid propagation become a possibility for farmers. This provides for easier control and compliance for plant breeders owning intangibles associated with new varieties.

Given the importance given by the industry to climate change adaptation and new coffee variety development, new players have become interested in this field, in some cases developing new business opportunities. Some importers, notably Ecom, have assumed a role in new plant variety and hybrid development and propagation in association with coffee breeders and research institutions. Other players interested in this area include Nestle and Starbucks, along with the World Coffee Research coalition, where Folger's (Smucker) is a major donor. Although most research results are intended to be publicly available, Ecom strategy includes a formal intangible component using the plant variety protection system.

It is still unclear to what extent the UPOV system will support interest in technology transfer to research institutions or universities in producing countries. Coffee specific knowledge, long field trials and adaptation to specific environments certainly require producing country cooperation with international players. Most of the commercial opportunities appear to be focused on new hybrid propagation based on plant material developed by traditional players, whereas other actors contribute their efforts on the basis of a free public good that can be accessed without costs by producing countries. Traditional and sophisticated actors from government and farmer association, notably from Colombia and Central America, have also started protecting their new plant varieties, without limiting in many cases the ability for domestic growers to access them. This may be a preamble of the developing specialized plant varieties for certain environments with particular quality attributes sold at higher price points, as has been the case with the highly priced "Geisha" variety.

The challenges of a more Concentrated and Vulnerable Supply

It is clear that the challenges and conditions facing the coffee supply are significant. They have also contributed to the substantial difficulties for coffee farmers to obtain a higher share of revenues and to develop intangible-based strategies. In addition, the inability to overcome the long-term decline in coffee-related income and the current supply chain governance models that limit farmer profitability and encourage a “race to the bottom” in some places has resulted in many farmers switching to other crops or young farmers losing interest in coffee growing.

As a result, a number of producing countries have not kept pace with demand growth, resulting in a higher concentration of supply from a limited number of producing countries. Most of the ones expanding have in place either high efficiency (productivity) or intangible-based strategies, or both. In the exceptions, such as Ethiopia, the main driver is low-cost based substantially on externalizing important facets such as human labor or environmental practices that add up to coffee as a poverty crop. As of 2016, just 3 countries produced almost 66% (Chart 9) of the overall supply. Clearly any economic disruption or climate alteration in any of these countries can bring significant instability to the overall market.

Chart 9
Chart 8 Top Coffee Producers
% of Total Production

Rank 2016	Country	1980s	1990's	2000's	2016	Acum Share 2016
1	Brazil	25,08	30,11	32,61	36,27	36,27
2	Vietnam	0,09	4,68	13,01	16,82	53,09
3	Colombia	15,75	12,61	9,28	9,56	62,66
4	Indonesia	6,26	6,74	6,71	6,60	69,25
5	Ethiopia	3,81	2,95	4,12	4,35	73,60
6	Honduras	1,48	2,13	2,61	3,91	77,52
7	India	2,31	3,51	3,92	3,52	81,03
8	Peru	1,36	1,61	2,66	2,51	83,54
9	Uganda	2,49	2,79	2,47	2,51	86,05
10	Guatemala	3,15	4,09	3,30	2,31	88,36

Source: ICO

This concentration of supply also brings significant difficulties to sustain the industry’s growth path based on diversity and specialization. Farmers, their organizations and origins have to confront increasingly difficult challenges and at the same time contend with a GCVC governance model that does not favor origin differentiation and focuses on building brand or VSS equities that do not necessarily help to improve the coffee grower’s long term competitive situation. In this context importers have become a key player that could actively elevate the role of farmer and origin intangibles.

2.1.3 The Increasingly important role of Importers

The value chain governance structure and the ability to reach markets are important elements to consider when developing a vertical integration or IP strategy. From a farmer and exporter point of view, distribution networks usually need to consider a counterpart at destination that can be aligned with their interests. The current governance structure, however, can make these efforts more difficult as the role of importers has attained increased importance.

While there are large roasters directly import coffee from time to time, the activity of importers is clearly dominated by importers (see chart 10). No other GCVC actor directly competes in this activity, making importers keyplayers in the industry.

Chart 10
Coffee Value Chain Actors and Activities

	Growing	Picking	Wet milling	Drying	Dry milling	Exporting	Importing	Roasting
Grower								
Wet mill								
Consolidator								
Dry Mill								
Exporter								
Importer								
Roaster								

Actor that often performs the process

Actor that sometimes performs the process

Source: Wienhold K. (2016)

This is the result of several factors. First, because of financial considerations roasters require to take ownership of coffees they buy at their warehouse or facilities at destination. These “just in time” protocols that reduce the inventory levels and roaster working capital needs have become part of many standard contractual arrangements between exporters, importers and roasters.

These institutional constraints are made explicit in contractual and price determination methods defined by the US Green Coffee Association and European Coffee Federation contracts, the dominant default contracts used in their trade. Prices are usually defined throughout the life of the contract at a “Price-to be-Fixed” (PTBF) basis at buyer and seller’s own choice based on the relevant futures market. Thus, both roasters and exporters use importer services for both information and price determination based on the coffee futures markets, enhancing the middle position of importers in the value chain. Also, the arbitration of differences usually take place at importing countries. As green coffees need to be delivered ex-factory or ex-warehouse, and product acceptance is “Subject to Approval of Sample (SAS)” on arrival, if a shipment is rejected because of quality or technical discrepancies suppliers need to take possession of the coffee at destination. This implies the need to sell it to a different roaster and replace it by another parcel to the original client, involving substantial risks and extra costs to exporters and growers based at origin, while importers are in a much better position to deal with these situations. Thus, these standard commercial contract clauses impose additional costs and risks for exporters to deliver coffees ex-warehouse or ex-dock if they do not have a presence in destination markets, limit vertical integration possibilities for growers and exporters and help to keep the market driven governance among big industry players.

Meanwhile, importers have been successful to find their own economic upgrade opportunities by providing additional services to roasters through functional upgrading. For large roasters this includes inventory management services, but it may also involve providing traceability and sustainable compliant coffees, a service that also helps to deal with reputation management issues. In this context importers have also become key players in developing supply chains that incorporate coffees grown under Voluntary Sustainability Standards (VSS) or other types of specifications and traceability features. They also develop alliances with NGOs, local institutions and roasters to support these developments and market these coffees. However, the ability to actually manage effective information up the supply chain to the farmer is still quite limited – even among major players – and increasingly new services are emerging to fill that need for reliable data.

Importers also provide a significant set of informal relational intangibles, based on their very strong networks of suppliers from dozens of producing countries. As large roasters don’t feel the need to involve themselves in producing countries, they become more dependent on the information and perspectives supplied by importers.

From a farmer’s perspective, the increased dependence of both roasters and exporters to importers has not significantly changed their ability to achieve economic upgrade and significantly alter the value chain governance in the conventional and differentiated segment. Roasters would usually maintain a network of potential suppliers and importers that efficiently transmit market signals from lead firms to their exporter network. Thus, in terms of producing countries, most importers dealing with first and second wave clients become the “voice” of the market and its expected developments, but do not necessarily provide significant avenues for differentiation of origins.

The role of the Exporters affiliated to large importing firms in this context is of an efficient transmission engine of market requirements. As can be seen in chart 10 they may face more competition for certain market segments, but due to the high volumes and financing needs of conventional coffee customers, those linked to an international importer network would have more access to capital and retain a significant share of the business. VSS coffees also provide them with better procurement and margin with the associated process upgrade opportunities. In this sense exporters also provide a service to protect the industry brands and reputation, and in this process have also developed intangible assets associated with know-how and relationships to leverage resources to expand VSS programs.

However, other opportunities for altering the value chain governance and developing farmer intangibles are arising. With the development of the third wave or experiential segment, a new breed of specialized exporters and importers has surfaced. Some of them, such as US based Cooperative Coffees and Sustainable Harvest²², emphasize “relationship coffee” models that focus to ensure long term roaster / growing community partnerships. Others focus on becoming roaster or barista partners in new product development efforts based on specific qualities coming from key origins, communities or individual farmers. These market approaches favor a relational coffee value chain governance model where farmers may have the opportunity to leverage their own efforts associated with improved quality or specific coffee attributes, and where product content and origin story-telling become part of the product offering mix. As roaster’s procurement and marketing functions try to maximize value generation rather than reduced procurement costs, this new “generation” of importers may become another key actor to provide grower and origin content and differentiation, enhancing the ability of farmers and origins to generate and benefit from their intangibles.

In summary, as the services that importers provide evolve, independent exporters, let alone growers at origin countries (Ponte, 2004) find it more difficult to achieve economic upgrade by providing more services to large industry players. Apart from the access to capital to finance coffee inventories, the limited economies of scale and the difficulties to provide coffees from different origins. Importers have become a powerful and highly concentrated agent of the global coffee chain, controlling hundreds of exporters based in producing countries and local import firms. In fact, certain reports suggest that only three firms, Switzerland-based Volcafe and Ecom, and Germany-based Neumann Coffee Gruppe control nearly 50% of the world’s coffee imports (Panhuysen. & Pierrot, 2014), giving them significant market power²³ and controlling many key exporters in countries of origin.

In terms of GCVC governance importers can play different roles. On the one hand, they are an efficient actor in transmitting market driven signals within the traditional governance framework that affects a significant volume of the world’s at-home and away-from-home coffee segments and that is destined for conventional coffee blends. On the other hand, they have also helped developed captive governance value chains by becoming key actors in green coffee segmentation for VSS compliant coffees. At the same time a new breed of importers is surfacing with business models that favor a relational governance model in which value is created and shared at both the upstream and downstream ends of the chain.

²² See coopeccoffees.coop or sustainableharvest.com/

²³ Other sources such as ITC (2010) suggest that these groups together with Olam, Louis Dreyfus and Noble account for 51% of the trade.

2.2. Intangible Assets and Demand Segments

From a demand perspective, each individual coffee market segment faces its own specific challenges related to its own competitive dynamics, based on the distribution channel used and the nature of targeted consumer occasions. These dynamics, and the intangibles at play, typically depend on the degree of sophistication and market specialization of different companies.

From a process perspective, Chart 11 summarizes the different steps usually performed by demand side players. Some of these involve activities that have to do with manufacturing, beverage preparation or dispensing methods and technologies. New technologies and methods have a direct impact in branding, which is the dominant source of intangible value when selling to consumers

Chart 11
Demand Side Actors and Activities

End Product		Consumer	
Roasters, Coffee Retailers, Soluble Manufacturers, Roasting and Brewing Manufacturers			
Manufacture / Final	Distribution and Marketing		
Bean Processing	Final Distribution		
23	Quality measurement - Chemical content techniques	32	Packaging technologies
24	Decaffeination processes	33	Biodegradable capsules
25	Freeze Dried processes	34	Capsules
26	Instant Manufacturing	35	Brewing Technologies
27	Color / Roasting Measurement	36	Mass Brewing Technologies
28	Roasting technologies	37	Cold Beverage Techniques
29	Particle size applications	38	Business Models
30	Blending Techniques		
31	Conservation Techniques		

Source: Authors

In order to better understand the role of the different intangibles at play it is useful to understand the challenges players face in the different market segments they compete. The following is a summary of potential challenges and IP related strategies in the different coffee “waves”.

2.2.1 The Conventional or 1st Wave Segment

As noted before, the first wave segment focuses in at-home consumption and mainly distributes its products through grocery chain outlets. This is a fairly concentrated segment dominated by large and multinational companies. According to Euromonitor (Chart 12) the top 10 brands sold in this channel accounted for US\$26.7 billion dollars in sales in retail outlets in 2015. These brands include conventional roasted coffees such as Jacobs and Tchibo (Germany), Folger’s and Maxwell House (US) and Carte Noire (France). These commercial coffees and large volume brands mainly compete with blended coffees with lower price points. Other roasted coffees are sold at higher price points, and could be classified as differentiated coffees sold in this distribution channel. They include Starbucks (US) and Lavazza (Italy), whose business tends to grow at higher rates than low value brands. The latter brands are certainly strong and compete at higher price points by focusing on differentiation and quality and do not have the same distribution efficiencies and low unit cost of production than their mainstream competitors enjoy.

Chart 12
Value Sales (US\$ million) for Leading Coffee Brands 2015
and Y-o-Y Growth 2014-2015

Brand	Company name (GBO)	2015	% y-o-y Growth 2014-2015
Nescafé	Nescafé SA	12,601	5.4
Nespresso	Nestlé SA	2,480	10.6
Jacobs	Jacobs Douwe Egberts	2,170	5.5
Folgers	JM Smucker Co, The	2,163	1.2
Starbucks	Starbucks Corp	1,758	12.0
Lavazza	Lavazza SpA, Luigi	1,299	2.3
Tchibo	Tchibo GmbH	1,208	0.9
Maxwell House	Kraft Heinz Co	1,138	2.0
Carte Noire	Jacobs Douwe Egberts	969	2.3
Nescafé Dolce Gusto	Nestlé SA	956	12.7
	TOTAL TOP 10	26,742	5.5

Source: Euromonitor

The Nescafe brand is by far the world leader in value in the soluble conventional segment with over \$12.6 billion in sales by 2015. It is considered the most valuable brand in the category and the 36th most valuable brand in the world by Interbrand (Interbrand 2016), followed by the Starbucks brand, which ranked 64th.²⁴ Other soluble brands are far distant in size and reach, whereas grocery retail private label brands – some of them produced and packed in coffee producing countries- are also significant players.

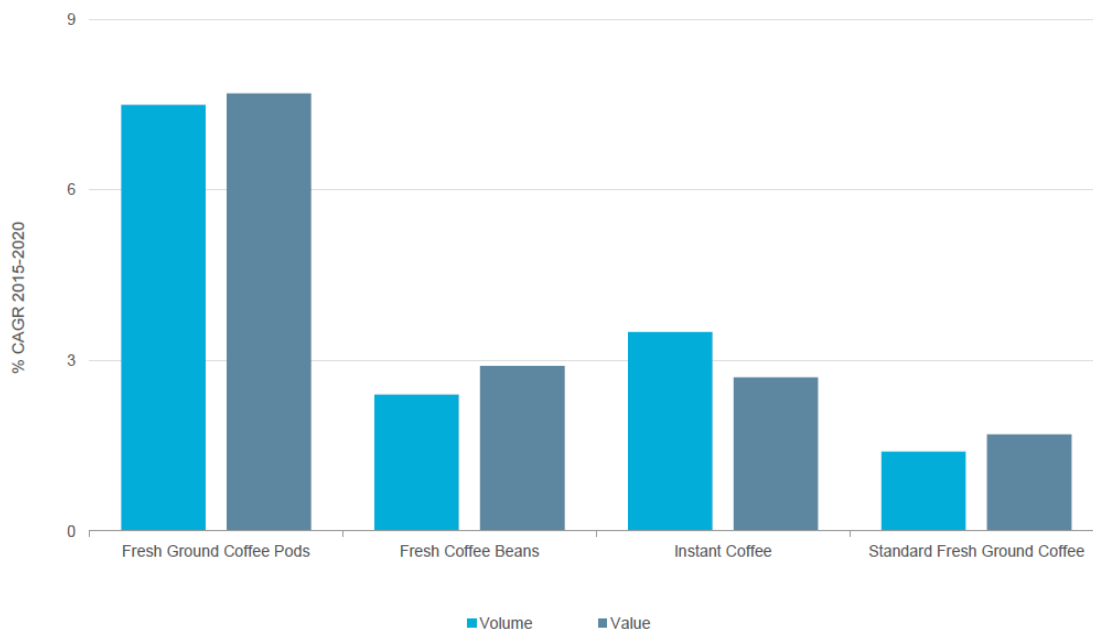
The single-serve portioned coffee business is another major value driver in the grocery retail – first wave segment. This sub-segment is primarily composed by capsules or pods that simplify and standardize the process of brewing individual coffee servings, showing a significant dynamic associated with technology and innovation. In North America the Keurig standard, with a licensing business model for different brands, is the more prevalent system, while other players, notably Nestle’s Nespresso²⁵ and Nescafe Dolce Gusto closed-model systems, have become significant players in the category. Clearly patents for both Keurig and Nespresso served as a launching pad for a new high value business that expanded significantly to attend the needs of high quality beverage preparation at home. These opportunities are being leveraged not only in the grocery retail environment but also in the internet and foodservice channels (which are not included in Chart 12).

As the patents that underpinned these new developments have been expiring, the closed systems have become open and new competitors, notably in Europe, have entered the field. Branding and sophistication to maintain higher price points and margins along with increased distribution in third party outlets has been Nespresso’s primary response as the more than 1,700 patents it held in 2010 started to expire (Getler & Weiss, 2017), while increasing its channels of distribution. According to Euromonitor, as new competitors and brands enter the category and new innovations of biodegradable capsules and pods come into the market, this subsegment will continue to be an intangible driven and high- growth portion of the home consumption in the global category (See chart 13).

²⁴ As WIPO pointed out in its 2013 economic report, different brand valuation experts may come out with different figures for similar brands. However it is interesting to note that Interbrand indicated that Nescafe’s brand value increased by 2% between 2015 and 2016, while Starbucks’ value increased by 20%, suggesting that the differentiated segment offers more opportunities for growth and value creation.

²⁵ Nespresso total sales were estimated at \$4.5 billion in 2015 by financial analysts as Nestlé does not report them separately. This system is becoming an open model as its original patents expire.

Chart 13.
Global Retail Value and Volume Growth % CAGR 2015-2020



Source: Euromonitor

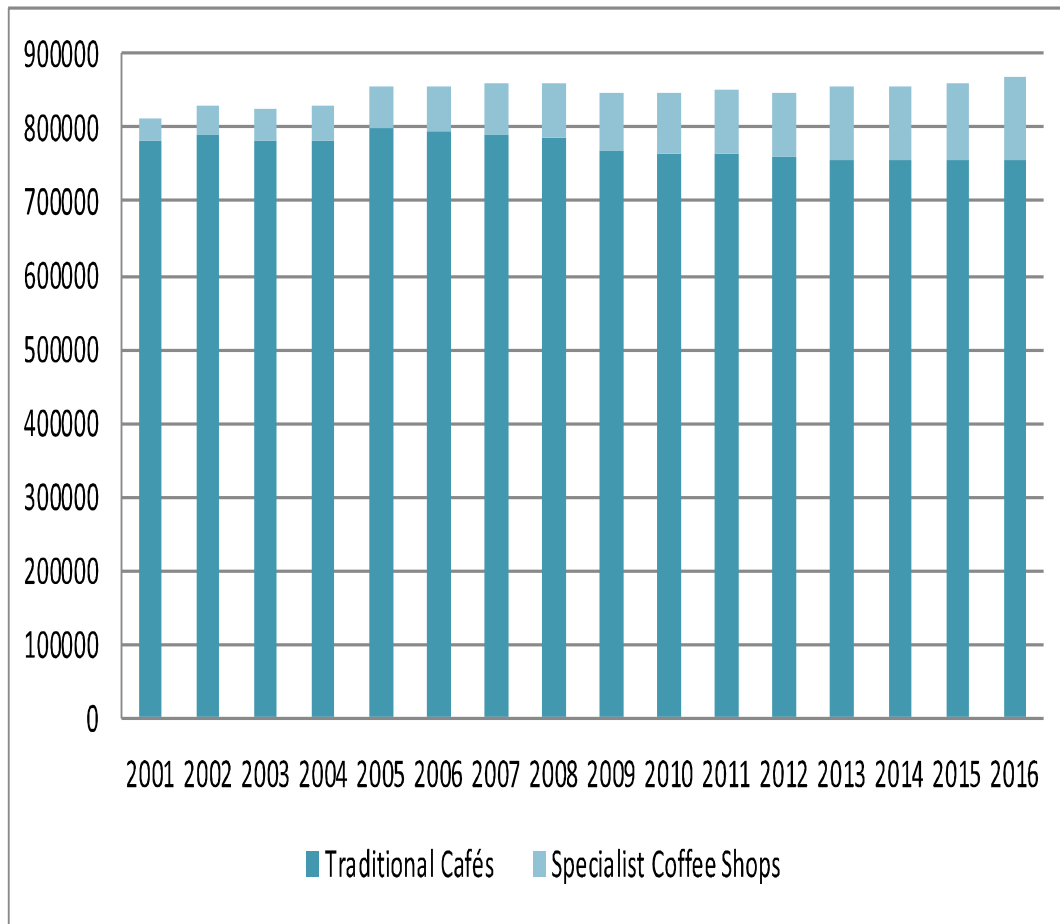
It is worth pointing out that while in the roasted and soluble business branding and distribution advantages play a significant role, the single-serve business has more conditions to compete. Developing capsules and the necessary machine distribution that works in open or proprietary systems may be a significant challenge for new entrants, particularly from exporting countries. Thus, apart from brand presence and distribution capabilities, new barriers to entry associated with technology transfer reinforce the buyer driven governance and the difficulties for other actors to be part of the more lucrative segments of the market.

On the other hand, single-serve systems are in need to offer more variety, quality and excitement. It could be argued, for example, that the Nespresso business could be best classified as a differentiated offering given its strong store and internet distribution channels. As we pointed out in the previous chapter, its sophisticated procurement practices and technology still allows for its capsules to be roasted and packaged in Switzerland, making this country one of the top coffee re-exporters in the world. Thus, the higher value, diversity and quality propositions associated with certain single-serve brands may also provide the ability to pay incentives to coffee growers to continue producing high quality coffees. Similar to VSS product offerings, these relationships may evolve into a captive value chain governance for clusters of growers that adapt to particular quality specifications and are compensated with higher prices. However, at the same time farmers become dependent and locked in on a captive governance model with a single client for selling their coffee.

2.2.2 The Differentiated or 2nd Wave Segment

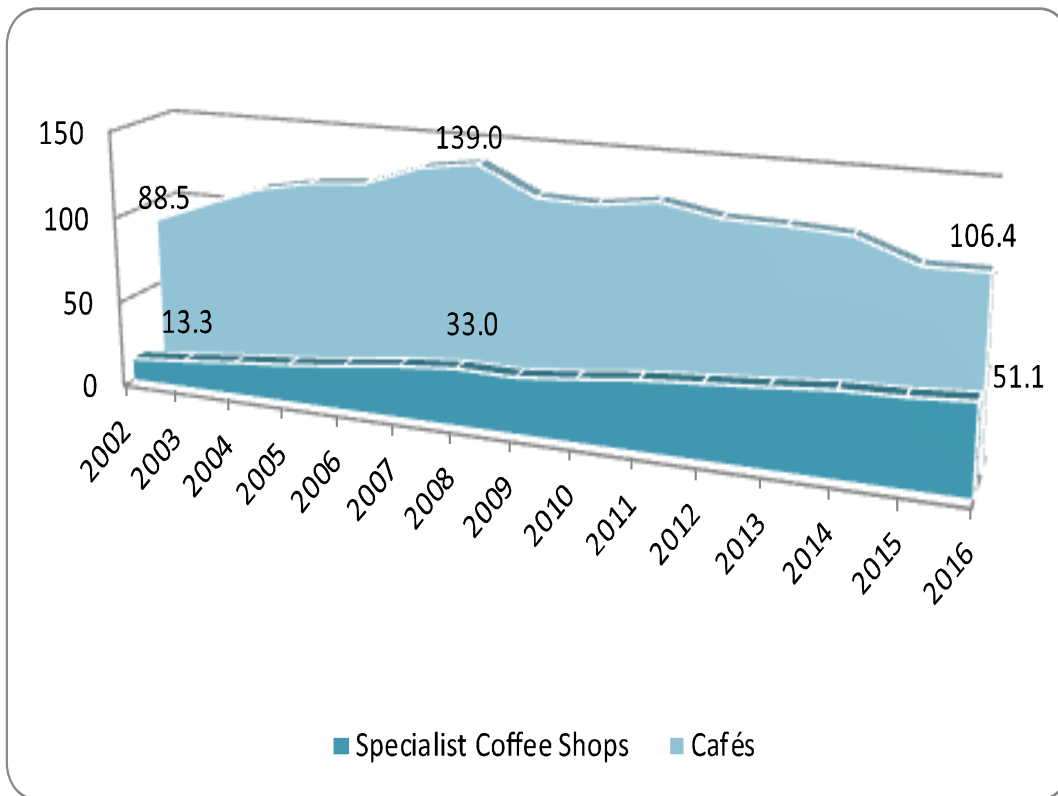
The differentiated coffee segment is closely associated with the evolution of specialty coffee shops (see charts 14 and 15) and acquired significance towards the end of the last century. Finding its roots in Italian espresso bars and their beverage preparation methods, specialty coffee shops expanded significantly in North America in the early 1990s and in other markets a few years later. Consumers found that higher quality coffees sold in comfortable and convenient locations provided a positive and affordable experience to treat themselves.

Chart 14
Specialty Coffee Shops vs Traditional Cafes in the world
Total number of outlets



Source: Euromonitor

Chart 15
Total Value of World Specialty Coffee Shop and Cafe Economy
(US\$ Billion)



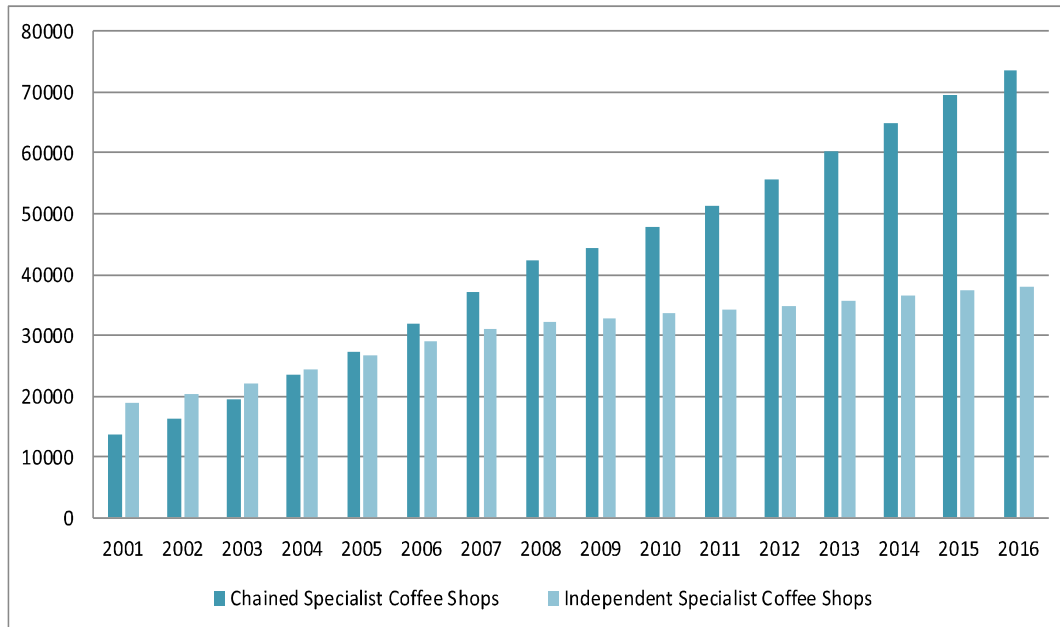
Source: Euromonitor

Following its Italian roots and its emphasis on espresso based beverages, the differentiated segment focused in selling blends of higher-end coffees often described with Italian references. Product consistency, standardized preparation techniques and a distinct ambiance were key factors to generate an attractive consumer and brand experience. Business models concepts developed around the so called “third place”, a non-threatening environment that could satisfy consumers social needs around a product that could successfully compete with other social beverages containing alcohol.

Key intangibles that play a significant role include, apart from the business models, the know-how and the ability to learn and detect consumer trends, the capacity to brand and communicate in different ways to make their brands attractive. Second-wave brands have low advertising budgets relative to their sales when compared with conventional brands, focusing in editorial content, brand placement in movies and social media as a way to position the specialty coffee consumer lifestyle. Second wave brands quickly became a daily consumer routine with high presence and visibility, developing very valuable brands that allowed the expansion of their business into foodservice and grocery outlets. The power of brands and brand experiences in the differentiated segment also favored positive associations, multiple consumption occasions and consumer touch points creating more marketing opportunities. Branded

specialty coffee chains therefore became a force to be reckoned with around the world, in a market clearly dominated by Starbucks²⁶ (Chart 16).

Chart 16
Evolution of Specialty Coffee shops around the world.
Total locations of Chained vs Independents.



Source: Euromonitor

As pointed out by Ponte (2004), value creation in the 2nd wave segment is closely associated with symbolic value and in-store services. The WIPO's 2013 economic report on trademarks also suggested that the evolving nature of brand communications and experiences imply that new value added opportunities tend to stay with those actors that are closer to consumers. In this context the differentiated specialty coffee shop segment has become a usual case study of brand symbolic value associated with intangibles in a number of marketing textbooks. However it is also an ignored example of how a dynamic and vibrant segment fails to significantly alter the value chain governance and change farmers' competitive position to make the industry sustainable in the long run.

One answer to this unequal balance of value creation and appropriation has been the addition of VSS, that were introduced in the category primarily through 2nd wave brands. Differentiated or conventional coffee segments that require VSS compliant coffees have been described as captive value governance relationships (Gereffi, Humphrey et al 2005; Garcia - Cardona 2016). Apart from the questionable long term impact in farmer's profitability in different regions (Samper and Quinonez 2017), the expansion of this sustainability model into 1st wave brands made less appealing to higher priced brands to continue adopting VSS. Thus, as large conventional brands progressively adopt third party certifiers and VSS models to protect their reputation, differentiated market players find that certifying labels no longer contribute to increase the perceived value and brand social responsibility image that should distinguish them

²⁶ By the end of 2016 Starbucks had 25,000 locations around the world under its direct operation or through associations or franchising arrangements, the equivalent of around 33% of the total specialty chained stores in the world.

from large mainstream brands. The pressure is on for more tailored sustainability programs (McDonalds, 2016, Farmer Brothers 2016, Nespresso) that consistently measure the impact of initiatives at field level (COSA 2014; Giovannucci et al. 2017). Branding will inevitably have to be combined with credible sustainability attributes and a higher degree of engagement with the suppliers.

2.2.3 The Experiential 3rd Wave Segment

The experiential or third wave coffee segment finds its roots in the consumer desire for authenticity and thirst for knowledge associated with food consumption. It leverages trends in gastronomy, the desire for a product-oriented –rather than an ambiance oriented – experience, focusing on a more selected coffee portfolio of superior qualities that can be prepared and served with deep product knowledge. Experiential cafes also provide the sense of the local by focusing on single origin coffees, often indicating the specific farm origin, the variety, post harvesting process and altitude at which those specific beans were grown, providing the necessary detail and content to justify higher prices to consumers.

In certain ways the experiential coffee segment borrows from the wine industry's flavor profile options associated with provenance ("terroir") and variety and the craft beer segment's motivational assets associated with local and artisanal, as opposed to mass production. While the differentiated segment or second wave shops focus more on blends, ambiance, beverage preparation standards and a more generic production information and sustainability platforms, third wave coffees are roasted according to their specific origins, and their flavor profiles are described in detail.

As opposed to conventional and differentiated brands, experiential brands do not rely on VSS to support their procurement systems credibility. They are aware that VSS can be costly to achieve and maintain by growers, often excluding them from a significant economic upgrade, and some question the long term benefits that VSS bring to producing regions. Also, VSS labels licensing fees can also be costly by third wave operations. They would rather establish direct trade relationships with specific farmers or farmer organizations through specialized exporters or importers that are in a position to supply the specific high quality coffees they need in the limited volumes they are in a position to buy. These systems favor a new way of transparency in the supply chain and provide specific input to develop tailored-support programs to growing communities.

Experiential coffees started to become noticeable as a trend in key areas of the world. In the United States the phenomenon initially took hold in the west coast, while Scandinavians and Australians also became early adopters and continue to be leaders in high end specialty coffee bars (Chart 17).

Chart 17
World Penetration of Specialty coffee Shops
per Region and Selected Countries

Specialty Cafes per million Inhabitants	
Australia	124,85
Sweden	80,72
USA	74,24
Norway	71,40
Western Europe	30,99
Eastern Europe	15,00
Latin America	12,24
Asia Pacific	11,65
Middle East and Africa	4,56
World	15,40

Source: Euromonitor – Author’s calculations

In summary third wave outlets provide a more in depth product experience where sound and credible content becomes essential. The experience focuses on the beverage itself and the story behind the product rather than on the comfortable setting of where it can be drunk. Brands rely heavily on intangibles such as innovation, the ability to offer new coffees, new roasting formulas or beverage preparation methods, and the disposition to give credit to farmers, cultivars and origins as part of the consumer experience. Although this is a dynamic market where patents are still exceptional, their purposeful use of single origin coffees creates opportunities for other types of intangibles to be deployed as value drivers, such as new plant varieties or geographical indications. Copyrighted content can revolve around farm specific or origin information, supporting emotional experiences. Third wavers also have a renewed interest in the science behind the product as it provides rational content that justifies and supports a higher price and an enhanced brand experience.

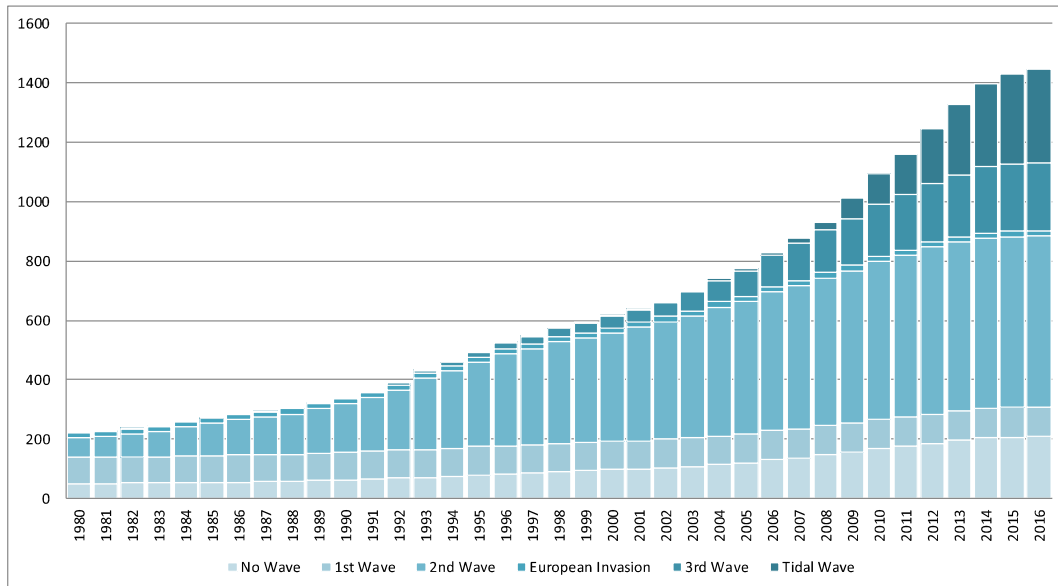
2.2.4. A 3rd Wave Segment that becomes a movement

Although the origins of the experiential coffee segment can be traced to the early 1990s, it only became a trend to be reckoned with in the first decade of this century. Barista contests and networking communities focusing on the understanding of the coffee quality began to consolidate through industry gatherings, barista and roaster guilds and social networks. Sharing coffee knowledge continuously provided additional avenues for differentiation and innovation, creating the need for more specific information about the coffee plant and the role farmers play in the final delivery of superior coffee quality.

There are no official data sources that can adequately quantify the size of this trendsetter segment. Private efforts have classified in 2016 around 1,450 North American coffee brands with internet presence, of which around 550 can be considered third-wave coffee brands based on the value promises communicated through their social networks and websites (Chart 18). The evolution of this segment also suggests that starting in 2007 well known third wave coffee brands like Peet’s, Intelligentsia, Counterculture Coffee, Blue Bottle and Stumptown Coffee saw a new “tidal wave” of

new entrant brands coming into the segment, focusing even more in single origin coffees. Clearly the presence and impact of new 3rd and tidal wave brands became a major trend that other segments could not ignore.

Chart 18.
Active Brands in North America by Market Segment²⁷.



Source: Premium Quality Consulting - US

In other markets, research efforts made by the Australian Coffee Research initiative have shown that an impressive 39.5% of the 300 roasters²⁸ surveyed in that country consider themselves direct traders, and a similar proportion abstained from using VSS or third parties to verify quality or sustainability standards. Clearly the experiential segment has evolved from a group of niche and marginal independent actors into a major trend and subculture that impacts major businesses and their product portfolios (See box 1).

²⁷ Data on 3rd wave coffees was obtained from Premium Quality Consulting, a US based consulting firm. They classify brands as 1st wave (conventional), 2nd wave (differentiated) and 3rd /tidal wave (experiential). The European invasion category relates to imported brands that helped to play a role in the changing of attitudes towards the coffee category. No wave means brands that could not be classified in any segment.

²⁸ 2014 data obtained from Australia's Bean Scene Magazine.

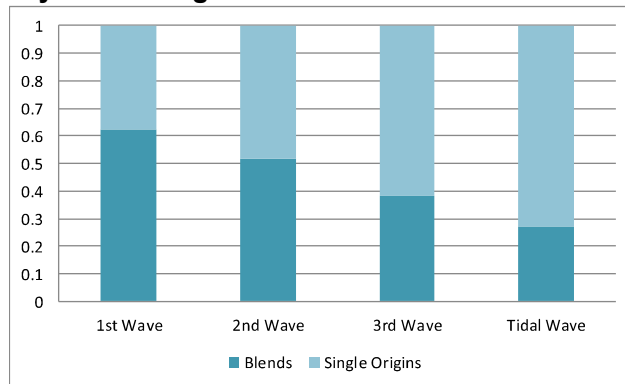
Box 1. The trickle-down coffee effect

The success of the second wave -differentiated segment since the 1990s created a renovated interest for conventional brands to provide more options to grocery consumers. Coffee descriptors such as “French Roast” and “100% Arabica” became more common, replacing traditional descriptors such as “breakfast blend”. New packaging lines were added. For well-known coffee origins such as Kona, Colombia or Guatemala, these developments also favored more demand for their origins. Also, over the last decade conventional brands faced heavy pressure to adopt Voluntary Sustainability Standards in their procurement policies, which created the need to substantially increase the supply of VSS coffees.

The arrival of the experiential –third wave- coffee segment has also had a significant effect in both the differentiated –second wave- and the conventional –first wave- segment. Its focus on single-origin and direct trade, which provides brand credibility and authenticity, has implied a stronger involvement and understanding of the supply chain by some of the more traditional actors. Brands such as McCafe and roasters like Farmer Brothers have made significant efforts to develop closer relations with growing communities developing new sustainability programs and alliances under a Direct Trade Verified Sustainable (DTVS) system.

Traditional conventional and second wave players like Dunkin Donuts have amended their portfolios to include more single origin coffees in their packaged good offerings (Chart 19). The acquisition of key 3rd wave brands such as Peets, Intelligentsia and Stumptown by traditional 1st wave operators like JAB, or Bluebottle by Nestle, illustrate the importance large industry players give to the third wave trend. Even well positioned differentiated brands are reacting with more origin and grower stories. The Second Cup chain announced the renovation of its cafes to focus on more single origin coffees. Starbucks launched its Roastery and Reserve™ café concept in Seattle and has announced its intention to reconvert up to 20% of its locations, to the point that its CEO stepped down to concentrate only on this task. Differentiated brands present in other markets that would not be under significant pressure to evolve are adapting to experiential requirements and are also modifying their strategies to be consistent with the new expectations: Colombia’s Juan Valdez Café launched two “Origin stores” in Bogota and Kuala Lumpur and its single origin portfolio now accounts for over 30% of overall coffee sales.

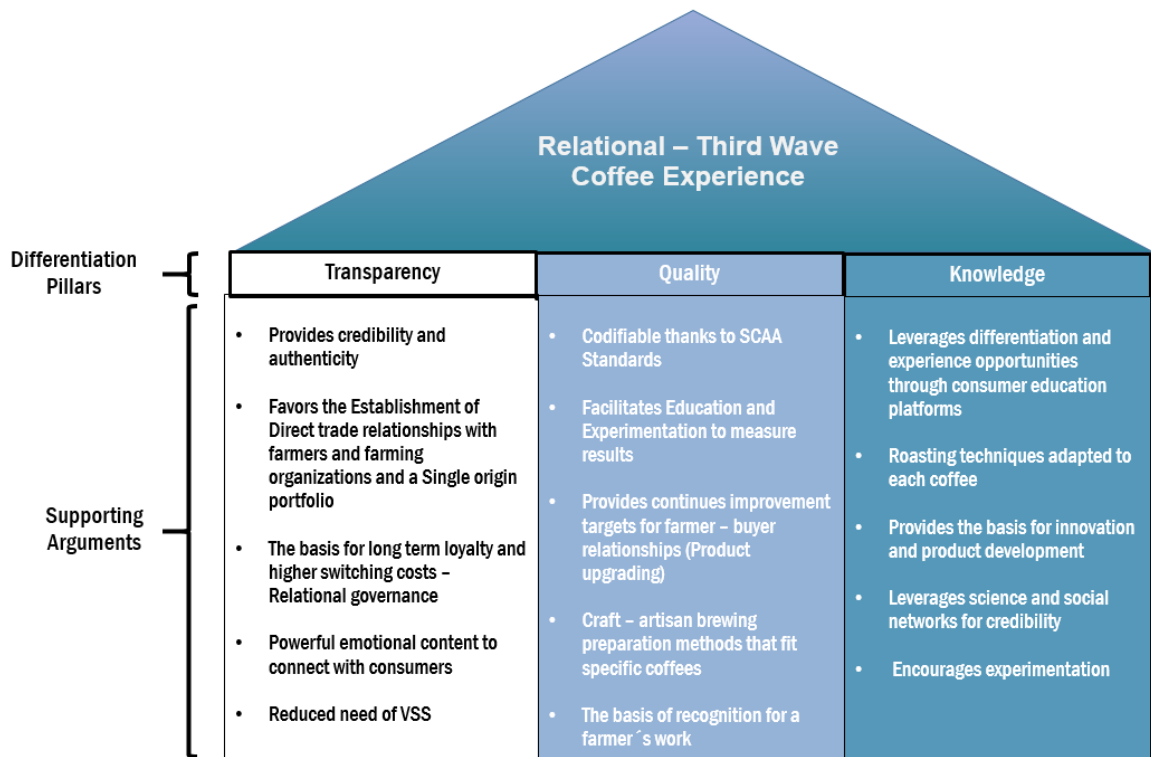
Chart 19
Blend vs Single Origin SKU Portfolio Average Composition
by Market Segment in North American Brands



Source: Premium Quality Consulting

The new positioning and differentiation elements used by the experiential segment match major demand and consumer trends. They are based on a new set of intangibles that are part of the essence of third wave brands and lend them credibility: Transparency, Quality and Knowledge (Chart 20)

Chart 20
Brand Differentiation Pillars in the Experiential coffee Segment



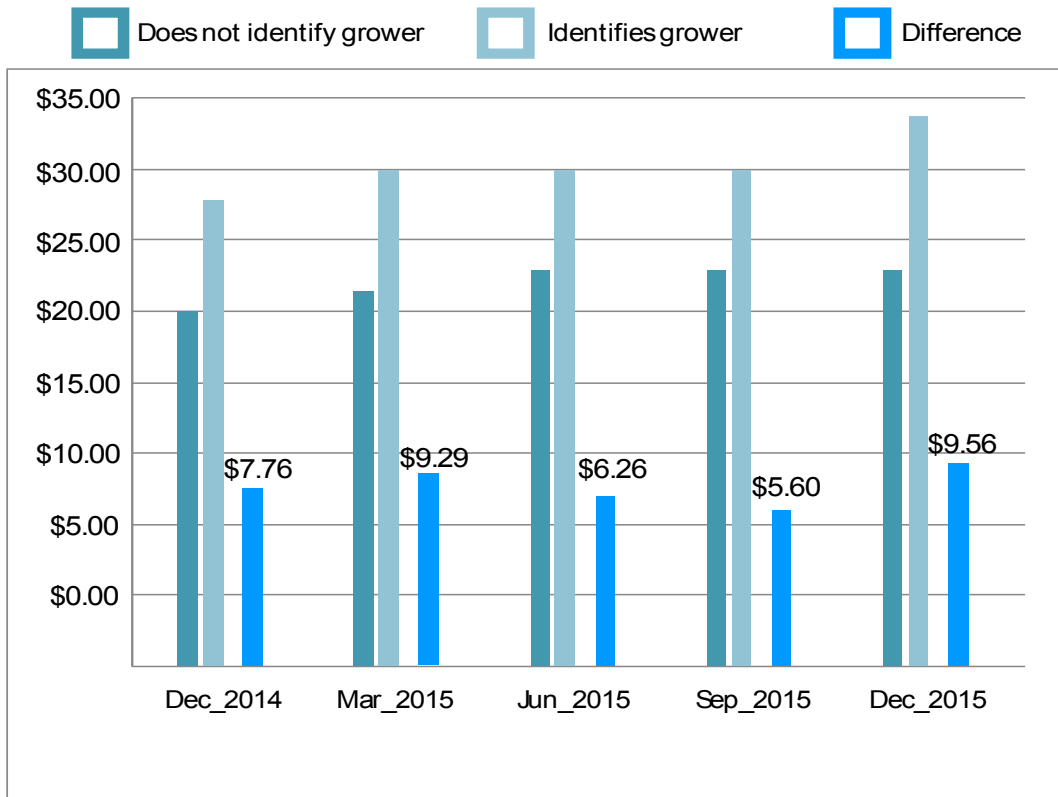
Source: Authors

Transparency is one of the differentiation platforms of the experiential segment and a key credibility attribute for consumers (Label Insight 2016 a,b). Like in the now popular farmer markets, transparency implies disintermediation and more meaningful and human information exchange about supply chain and consumers. It also fits the farm-to food table movement and the increased interest in equality in the economic relationships between actors. Specific stories about origins and farms provide a connection to the content needs and “buying local” desire, which are credibility attributes that millennial consumers now expect from brands. For brand owners transparency fulfils several roles: it is a bridge for emotional and educational content and a key area for the value promise of experiential brands, and it is also an integral part of the narrative for quality, direct trade, grower relationships and the higher procurement costs that they imply, justifying the higher prices charged to consumers²⁹ (see chart 21);

²⁹ According to Transparent trade coffee, an initiative of University of Atlanta, an analysis of references made on the websites of experiential coffee shops in 2015 suggested that the 178 coffees that identified the grower sold their coffee at a premium of 33.5% over others. See <http://transparenttradecoffee.org/insights/at-the-upper-end-of-the-specialty-coffee-market-names-matter>

Chart 21

**Price premiums of coffees identifying growers
in selected North American brands**



Source: Transparent Trade Coffee 2017

Transparency also implies a more open attitude to innovation and sharing. New product recipes and ideas are openly communicated to both consumers and competitors as they also reaffirm the brand's commitment for knowledge sharing and innovation. The management of information and content is therefore another key difference between experiential and differentiated brands: whereas the latter provide origin information on demand, mostly based on VSS information, experiential brands are active content providers using origin information as part of their transparency, knowledge and educational platforms.

A second, and evolving, intangible pillar for experiential coffees is quality. In this area the involvement of the Specialty Coffee Association (SCA) and its cupping and grading standards (SCAA 2009) has been a crucial factor to codify quality concepts and measurements. This significant contribution has paved the way for a clearer understanding of expectations between roasters and suppliers as well as between retailers and consumers. SCA's strong links to the barista movement and barista guilds, and the standard's adoption by the Cup of Excellence international auctions also provided the basis for the standards' adoption. In parallel, SCA also put into motion the development of a network of certified graders (Q graders) favoring the use of its standards in both producing and importing countries. Coffee quality contests using SCA standards became more frequent in different producing regions, further disseminating the system.

The direct trade relationships also foster product and farmer economic upgrading from a quality standpoint, providing the conditions for longer term relationships based on continuous improvement efforts. Also, the high “discovery costs” for roasters of high-end farms and experiential roasters (for farmers) are another reason to promote long term partnerships and loyalties, increasing switching costs and de-commoditizing the segment. Specialized importers started to provide these “discovery” services, helping farmers to adapt to roasters requirements and at the same time giving them credit for their efforts. This created opportunities for grower and origin content and roaster.- farmer longer term cooperations. Lastly, craft roasting and beverage preparation techniques also reinforce consumer interaction and education opportunities that add to the brand experience.

Education and knowledge is the other key 3rd wave distinctive platform. Each coffee has a recommended preparation method, elevating the craft and artisanal experience and satisfying the need for individual attention. While transparency provides emotion and quality communicates value and differentiation knowledge becomes a crucial attribute that provides rational substantiation of exclusivity and higher prices. The knowledge narrative leverages on science and experimentation, justifies trial and consumer upgrade and is the basis of innovation and discovery

The provision of transparency, top quality, and knowledge created the need to develop systems that would guarantee credibility and differentiation, creating and distributing value among the different supply chain actors. Thus, the experiential segment required significant changes of the role different value chain actors play. Its origin focus has provided incentives for industry players to rely on a relational value chain governance where independent baristas and roasters buy directly from coffee farms and develop long term partnerships that lead to higher quality and product innovation. In parallel there is some “blurring of the lines” of traditional actors in the coffee supply chain, which has made possible to find importers and roasters running experimental farms, growers getting into the business of retailing or 3rd wave coffees or baristas also venturing into coffee growing (Wendelboe, 2013)(Box 2).

Box 2. The Blurring of the lines between actors of the supply chain.

Under the conventional and differentiated segments the roles of producers, exporters, importers, and roasters were clearly distinct. Only occasionally will producers export coffees directly without the intervention of other actors.

Under the experiential coffee segment an opportunity to blur the lines between actors has arrived. Farmers are finding the way to sell small roasted coffee parcels to restaurants and other Horeca locations in their domestic markets. Many use sophisticated contract roasters without incurring in significant capital expenses. New packaging technologies guarantee longer periods of freshness, opening up export opportunities. It is now more common for contract roasters to offer export services for coffees bought online, reducing transit times and offering still freshly roasted coffees.

At the same time roasters are teaming with producers to improve quality. Tim Wendelboe, a former barista champion and one of the leaders in the experiential coffee movement regularly publishes blogs and documents on how his partnership with farmers has resulted in higher quality and valued coffees. Mr. Wendelboe has now bought part of the farm of his partner in southern Colombia to do quality and science based experiments. Other examples include another former world barista champion, Sasa Seztic, who now owns land in Panama, Honduras and Nicaragua.

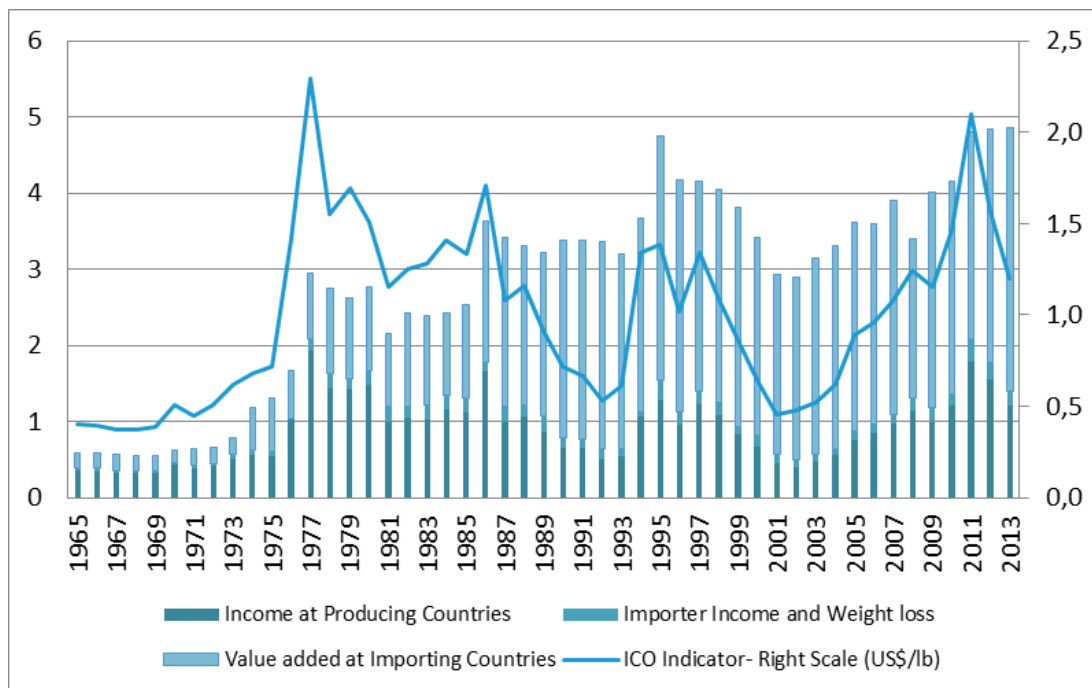
As baristas become farmers they also find that producing uniform qualities under varying climatic conditions can be a hard task, understanding better the farmer's difficulties and challenges. They can also experiment with new varieties, post harvesting and drying methods that lead to significant product innovation and the creation of new market niches.

In sum, the experiential segment's focus on origin, farmers contributions to the final product and overall experience and joint farmer and barista intangibles has made possible for a significant change in the coffee value chain governance for 3rd wave coffees. The relational governance associated with these operations favors farmer, importer and roaster partnerships that can, if scaled up, provide the basis for a new industry dynamic. The experiential segment needs on transparency, quality and knowledge has led it to focus on origin as an intangible asset that contrasts with the differentiation segment's reliance on business models that can efficiently provide brand symbolic value associated with ambiance and the conventional coffee segment's dependency on mainstream brands and economies of scale for capturing value.

2.2.5 Value Creation and Distribution

In terms of value creation and distribution, it is clear that in different segments, different coffees with different value and cost structures are sold. The value creation and share appropriation between farmers and the international industry has been reviewed by Talbot (1997) and a number of other authors (Ponte (2002) Fitter and Kaplinsky (2001) Lewin, Giovannucci and Varangis (2004) Daviron and Ponte's (2005) based on available data from FAO and ICO of retail prices of roasted coffees obtained from a grocery stores and prices paid to producer, FOB green coffee export prices and import prices. This analysis, which focus on at-home consumption supplied by the conventional -1st wave data series suggests that a trend where importing country /downstream industry share of overall segment value has increased over time. Clearly green coffee prices determine to a great extent the ability of coffee farmers to capture value in given years. Thus, commodity price swings determine farmers' value retention, while the international industry value appropriation is much less dependent on green coffee price changes (Chart 22). As a result, producers captured a much lower share of total income in the grocery retail channel even in periods of relatively high green prices such as those observed in 2011-2012

**Producing-Importing country Value Distribution
Grocery Retail Coffee Sales
US\$ per roasted lb.**



Source: FAO-ICO, based on ICO average consumer retail prices following Talbot (1997) and Ponte (2002)

The dynamics clearly change in other segments. A comparison between segments would show different absolute price and value appropriation shares, suggesting how intangibles have different roles according to the segment. As can be seen in Chart 23³⁰, the average roaster sale price in the commercial grocery retail segment in 2014 was just over 4 dollars per lb. This figure is equivalent to 2.83 times the average FOB price at producing country seaports for those type of coffees in the same year.

Chart 23
An indicative distribution of Value Creation and distribution
in different coffee segments (2014)

		Commercial coffees		SCAA 2014		Tim Wendelboe	
		US\$/lb 453 g	Index FOB=100	US\$/lb 453 g	Index FOB=100	US\$/lb 453 g	Index FOB=100
Producer- Exporter	Producer FarmGate	1.25	a 86	na		4.11	80
	Exporter	na		na		0.45	
	Dry milling	na		na		0.4	
	Packaging	na		na		0.11	
	Coop Services	na		na		0.07	
Importer	Green FOB	1.45	b 100	2.89	100	5.14	100
	Logistic costs and importer margin			0.24			
	Green coffee at warehouse	na		3.13	108	6.58	128
Roaster	Weight Loss and delivery to roaster	na		3.13		na	
	Weight Loss and delivery to roaster	na		0.78		na	
	Packaging and Direct Labor	na		0.84		na	
	Other Wages Sg&A	na		1.00		na	
	Other Fixed Costs	na		2.00		na	
	Fair Trade USA fee for maintaining certification	na		0.04		na	
	Traveling to Origin	na				0.35	
	Gross Margin	na		0.71		na	
Total Roaster Sale Price		4.11	c 283	8.50	294	17.45	340

Source: SCAA, Tim Wendelboe, ICO

a Simple average from all ICO countries that submitted data

b Average exdock indicator minus 10 cts for exdock FOB conversion

c Simple average from all ICO countries that on Retail prices submitted data minus 30% on channel markup

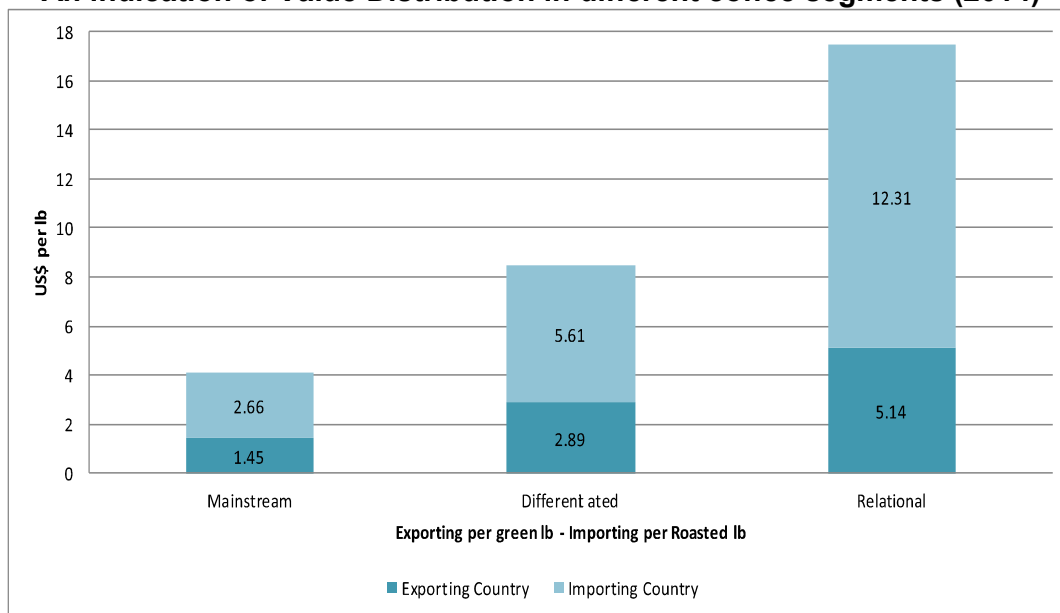
d Producer - Exporter breakdown based on 2012 figures

³⁰ Chart 20 intends to illustrate basic value creation and distribution relationships in the different segments based on publicly available information and should not be considered an exact calculation applicable for all market actors.

Value creation at importing markets for differentiated coffees and conventional coffees would appear to be of a similar proportion (indexing at 294 vs 283), albeit based on much higher green coffee FOB prices (\$2.89 vs \$1.45 per lb) that comply with higher quality standards. In contrast, a lead experiential coffee roaster like Tim Wendelboe will pay significantly higher FOB prices and have an index of 340 compared with the high green coffee price paid (\$5.14). In terms of value distribution to farmers, the figures available suggest that farmers farm gate prices may be around 80% of their respective FOB prices.

The indicative price points and value distributions illustrated in Chart 23 are graphed in Chart 24. While it could be argued that the value share distribution among actors does not necessarily favor producers (this is in part due to the lower economies of scale 3rd wave segment actors have access to), it is also true that in absolute terms farmers are much better off selling to experiential roasters, where they could obtain a significant farmgate price increase that might not be linked to future market uncertainties and volatility.

Chart 24
An indication of Value Distribution in different coffee segments (2014)



Source: Authors based on Chart 23

We can conclude that the impact of the experiential coffee segment is being increasingly felt in both 1st and 2nd wave segments and appears to be lasting and powerful, suggesting that successful experiential offerings and practices are quickly being adopted by conventional and differentiating brands. This trend can possibly bring new opportunities for value distribution and vertical integration. Third wave coffees are also impacting the newfound needs of transparency and expanding product portfolios. Although still marginal in size, the question is how big this impact is going to be and whether this development can become a significant differentiating from below opportunity for a large number of farmers. Some of the tools to leverage these opportunities can be associated with intellectual property instruments that create the opportunity to modify current governance models and obtain a more balanced income distribution and value appropriation among supply chain members.

To leverage these trends farmers will have to define the set of formal and informal intangibles they need to take advantage of and leverage the renewed interest in single origin concepts that can scale to producer groups and regions. This objective will require the developments of stronger producer governance systems, a focus on higher quality coffees with sustainability indicators built-in, adequate content offerings that focus on science and knowledge, and develop managerial skills and new abilities to exploit the new set of intangibles associated with human and relational capital capabilities that farmers can now acquire.

Chapter 3: The Current and Potential Role of IP in the Coffee Industry

As we noted in the previous chapter, intangibles usually play different roles in the supply and demand side of the coffee industry. However, the “trickle-down effects”, the “blurring of the lines” between value chain actors and the industry wide effects created by new consumer demands for information and transparency, currently satisfied by third-wave coffee brands, have created the conditions for a higher level of industry cooperation. This new vision opens opportunities to tackle some of the industry’s challenges and have the potential to create value for all actors.

There are different initiatives already taking place. The use of new coffee tree varieties more suitable for to climate change adaptation are now not only considered a key aspect from the supply side, but are also viewed by the whole industry as a key asset to consider for differentiation. From the demand side, brands that have been seen as a key asset for consumer differentiation by downstream players are looking to engage coffee communities and origin stories to ensure long term supply and resilience. Also, trademarks owned by producers and Business to Business brands are now being used to create equity and capture value for farmers.

This evolving role of intangibles for different value chain players and their ability to leverage them is conditioned on each value chain actor, or group of actors’ ability to implement business and differentiation strategies and to scale them based on IP instruments. Therefore, in order to review the potential role of intangible assets in the coffee industry it is useful to review how “formal” and “informal” intangibles interact and which formal intangibles are a key instrument for a possible economic upgrade, vertical integration and influence in the value chain governance.

3.1 Formal and Informal Intangibles

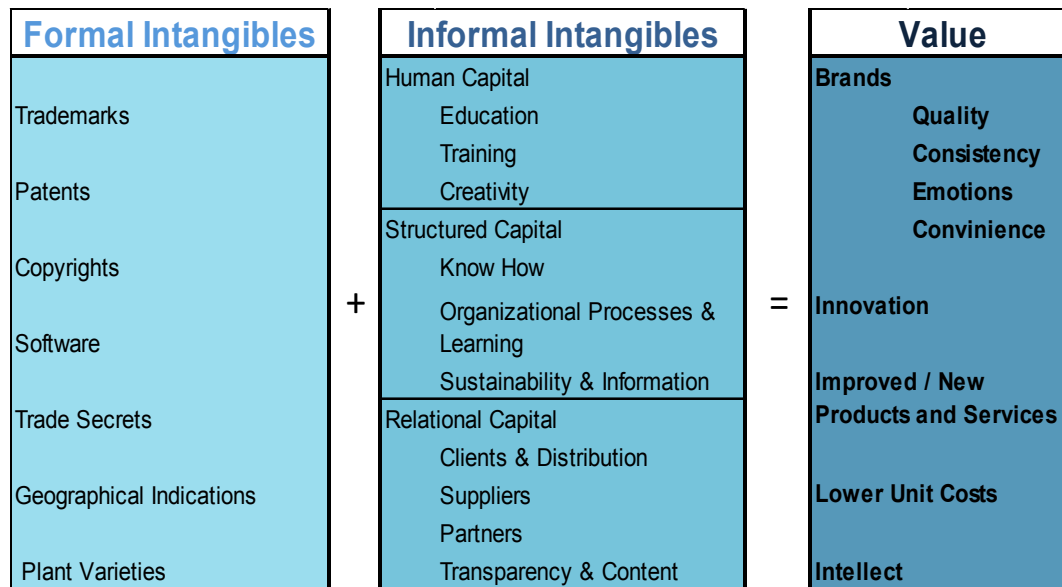
Intangible assets create value not by their mere existence or registration, but mostly by the ability of companies, individuals or producer groups to develop, position and leverage them. Only after applying intangible-based business strategies these assets can be considered a significant source of value creation. It is therefore convenient to view intangibles both as “formal” intangibles (i.e. those that can be appropriated through mostly intellectual property tools) and “informal” intangibles (mostly individual, group or enterprise abilities and assets that may not be considered as owned but are effectively used and leveraged).

Formal intangibles include patents, software, trademarks or copyrights. Other formal intangibles that play a role in the GCVC include plant varieties and Geographical Indications (a concept that could include Denominations of Origin and Certification Marks, as applicable in certain jurisdictions). These formal intangibles are usually registered before competent authorities using intellectual property tools and have the potential to become dominant value drivers.

However, formal intangibles do not necessarily have the ability to create value and provide economic upgrading by themselves. In order to be effective, they should be combined with know-how, organizational processes and capabilities. These “informal intangibles” can be classified as human capital (which includes the concepts of innovation and learning capacity, training and education), structured capital (the procedures and culture that ensures organizational learning) and relational capital (such as the ability to leverage relationships with clients, suppliers and partners) (OECD 2008).

The combination of formal and informal intangibles is therefore the key to value creation. As illustrated by Chart 25, formal intangibles will only create value if combined with informal intangible capacities. In this sense, knowing how to roast coffee, obtaining a Geographical Indication recognition or registering a trademark does not in itself create value (WIPO 2013). Market actors have to develop the right marketing capabilities and relational capital, as well as a long term consistent and coherent strategy in order to extract value from their formal intangibles.

Chart 25
Intangibles and Value Creation



Source: Authors

The creation and appropriation of value not only depends on the internal capacities and the ability to capture the benefits of formal intangibles. It is also related to the type of value chain governance and the position they are into in a given industry. Value chain literature (Gereffi, Humphrey et al. 2001; Gereffi, Humphrey et al 2005; Humphrey 2006; Kaplinsky 2010; Garcia-Cardona 2016; Vasconcellos et al 2015; Carvalho et al 2016, among others), suggests that an actor's economic upgrading possibilities is limited by the existing value chain governance. As creating and sustaining economic upgrade possibilities often depends on the ability to develop an intangible based strategy, the role that formal and informal intangibles can play in altering certain governance conditions should be considered when designing upgrade strategies.

For example, in the context of the GCVC, learning and exercising new capacities, as has taken place after implementation of VSS in coffee production, may not lead to achieving significant economic upgrade and lasting solutions for farmers that can alter the value chain governance (Garcia Cardona, 2016; Samper & Quiñonez 2017). In this context using formal intangibles can provide a better bargaining position, differentiation opportunities and lasting changes. To evaluate these possibilities it is useful to better understand demand trends and distribution channels and to map intangible possibilities along the different activities performed along the chain.

3.2 Demand and its influence in Formal and Informal Intangibles

In the previous two chapters we described the different consumer needs satisfied by coffee according to different consumption occasions and the main tools for generating and capturing value in each consumer segment. As these needs may change, the same consumer may “travel” across different segments during the same day, and is willing to pay different price points for the coffee he/she consumes according to his/her needs state.

Chart 26 illustrates the 3 different consumer segments we described, summarizing the dominant channels of distribution, consumer occasions, need states, price points and tools for capturing value associated with intangibles. It also adds the “differentiation initiatives” in terms of initiatives surging from “above” or “top-down” (retailers, roasters), the “middle” (VSS agencies, NGOs or importers) and “below” or “bottom-up” (farmers and their associations) (Humphrey 2006, Garcia-Cardona 2016).

Chart 26
Dominant Consumer Segments of Coffee Category
based on occasions and needs

Segment	Typical Distribution outlet	Typical occasion	Typical Consumer need	Price point	Tools for capturing value	Differentiation Initiative
Mainstream - 1st Wave	Grocery	Home - Morning	Energy	Low	Brands, Distribution	Above
	Foodservice Outlets	Away from Home throughout the day	Energy	Low	Distribution Service	
Differentiated - 2nd Wave	Grocery	Home	Social - Energy	Mid	Quality, VSS	Above and Middle
	Specialty coffee Chains	Away from Home	Experience - Social	Mid - High	Quality, Preparation, Ambiance, VSS	
Relational - 3rd Wave	High end - independent coffee retail operations	Away from Home	Social - Symbolic Content	High	High Quality, Craft, Transparency, Origin knowledge	Above and Below

Source: Authors based on Humphrey 2006 and Garcia-Cardona 2016

Clearly as demand segments become more sophisticated more value is generated and prices increase. The tools for generating and capturing value, through both formal and informal intangibles, also become more complex to isolate and it becomes more difficult to assign the specific role that each factor plays in the value equation. The simplified exercise depicted in Chart 26 suggests that the opportunities for farmers to differentiate may be limited to the experiential segment. In this segment “differentiation from below” efforts that leverage origin as a key differentiating factor are

complemented with a relational governance structure that may lead to a wider use of informal intangibles, such as relational capital, that shorten value chains and other formal intangibles such as farmer owned trademarks.

This may also lead to vertical integration opportunities, as is the case of small coffee shops or brands owned and run by farmers that are now becoming more frequent in a number of producing countries in Central America, Colombia and Brazil (Carvalho et al 2016).

Both differentiation from “above” and “below” elements can be combined based on knowledge transfer between retailers and farmers. In this sense, codification of quality measurement has become a key success factor supplied by SCAs cupping guide (SCAA 2009) and its Q certification program for coffee cuppers, becoming a crucial “above initiative” that has helped to create informal intangible asset for farmers for more efficient and market responsive product upgrade processes, improving the chances for farmers to acquire the ability to perform in the experiential segment.

The sophistication of demand has not been the only factor bringing more complex product service-offerings. Conventional and differentiated brands are now aware of the need to review their supply chains to protect their reputation and market access, embarking on occasions into direct trade and single origin product offerings to replicate the success of the experiential segment. In addition, the high profile of the category, an interconnected world that gives visibility to supply chain ethical or environmental deficiencies and engaged NGOs that elicit sustainable practices have exercised significant pressure to improve procurement practices and adopt VSS in conventional segments. Indeed, there are indications that some level of measurable or verifiable sustainability will increasingly be a basic component for an increasing number of brands and consumers. These “from the middle” initiatives may also be seen as another form of intangible strategies, as they include capacity building and the use of trademarks identifying certification labels, which are licensed to roasters. They also bring economic upgrading opportunities to unexpected actors: importers, exporters or field certification agencies.

However, there are exceptions to the specific paths suggested in Chart 26. Colombia’s Juan Valdez® trademark (Reina et al 2007, Norton & Dan 2013) shows an example of how grower organizations can penetrate a value added differentiated segment. (See Box 3).

This case shows that it is possible to overcome the challenges involved in implementing differentiation from below initiatives under the conventional and differentiated segment, which up to recently were limited due to path dependence, lower producer capabilities and understanding of the product they sell. The dynamic world of brands, the complex set of values that brands have now to communicate and the more frequent opportunities for increased relational capital and knowledge transfer suggest that farmer owned brands and origin labels with the appropriate strategy and informal intangible capacities can access more diverse and rewarding market opportunities in the years to come.

Box.3 Differentiation from Below efforts

Juan Valdez Coffee shops

Since the 1960's Colombia successfully launched advertising campaigns directed to consumers in North America and Europe to generate additional demand for Colombian coffee and promote the launch of brands containing 100% Colombian beans in all continents. This pull strategy was directed to maximize demand for this origin and obtain higher premiums for its beans in a context of fixed export quotas during the ICA period. Towards the end of the century, the 100% Colombian coffee segment was a significant portion of the US market, surpassing 10% of overall grocery volume sales with major brands carrying 100% Colombian coffees, including conventional brands such as Maxwell House, Folger's and Yuban.

In the middle of the coffee price crisis years of the beginning of this century, the Colombian Coffee Growers Federation (FNC) launched a new strategy to conquer the differentiated segment to position Colombian coffee in more sophisticated channels of distribution. This strategy required a significant effort to comply with the specifications that voluntary sustainability standards (VSS) and the need to demonstrate that Colombian coffees were suitable for espresso-based preparations, then dominant in the second wave segment. As a result of the development of its new brand architecture, the FNC maintained its ingredient branding strategy to support 100% Colombian brands in the conventional market, and developed a Geographical Indication (GI) strategy for Colombian coffee (WIPO 2007) and certain regions (as of today 7 GIs have been recognized for Colombian coffees) to offer a wider quality portfolio to origin focused brands. It also maintained its Buendia® product brand for freeze dried Colombian coffees in certain markets and launched and licensed a new specialty coffee shop brand leveraging the Juan Valdez® fictional character (Reina et al 2007).

The evolution of this strategy has been the subject of evaluation of different Harvard Business case studies and has not been absent from challenges and difficulties (Desphandé 2001, Norton & Dann 2013, Koh et al 2017)). The overall results would imply that by managing and developing new trademarks and Geographical Indications and developing the capabilities in product brand management and operations the FNC has achieved significant progress. Colombia continues to be the largest supplier of mild Arabica coffees and a leading provider of single origin coffees to the conventional, differentiated and experiential segments. As of the end of 2015 there were 209.000 farms producing under VSS. Buencafé, FNC's Freeze dried operation, sold US\$121 million in the same year (FNC, 2015). By the end of 2016 there were 371 Juan Valdez® coffee shops in operation, 119 of which in markets outside Colombia, with total income of US\$60 million. More importantly, the accumulated brand royalties transferred to the FNC since its launch amounted to over US\$37 million.

As origin is increasing its relevance as a differentiator, Geographical Indications (GIs) can acquire a more prominent role as a tool to scale up the origin based model and penetrate larger segments and distribution channels in second and first wave offerings. There are a number of recognized GIs in coffee that could be considered a formal intangible to deploy, and a number of coffee regions that have already a positive quality reputation and could become formally recognized GIs. OriGIn, the Geneva-based world network for GIs, estimates that there are at least 79 coffee GIs recognized around the world. Café de Colombia GIs are perhaps the only that have obtained recognition in markets other than the country of origin (Andean countries, European Union and Switzerland) or as a Certification Mark in the United States and Canada. Clearly, GI recognition is not enough to leverage additional value. Informal intangibles that can lead to long term “GI branding” require the right farm organization governance, developing alliances, know-how, market knowledge and enforcement strategies.

Technology and innovation is the other key area where intangible assets can generate significant value added in the coffee industry. As mentioned in the previous chapter this applies in particular to single serve or portioned coffees, sold by capsules or PODS, primarily for at-home consumption in the conventional and differentiated segments. The dominant players in this segment, the Keurig system (under which several conventional and differentiated brands sell their coffee), Nescafe Dolce Gusto and Nespresso, have been able to provide a technology solution and a new brand proposition that has created significant value for the category as a whole and for the conventional grocery segment in particular. As these systems consolidate, a larger and more diverse origin portfolio of coffees to continue attracting consumers may also provide opportunities for origin differentiation.

Other technology and innovation options in the coffee industry can play a significant role for both coffee supply and demand actors. In order to review in which steps along the GCVC technology and innovation can become an avenue of value generation, we merged Charts 8 and 11 to detail 38 specific steps performed by the different value chain (direct and indirect) actors from the farm to the consumer (Chart 27). We grouped them in different phases: the production (farmer and grower organizations) sphere, grading (exporters), procurement (importers), manufacturing and distribution (roasters). Value appropriation based on intangibles will probably show larger IP portfolios close to the end product phase mostly in large consumer markets.

Chart 27
Mapping Activities by GVC actors

Global Coffee Value Chain						
Farmer	Raw Material Production and Processing			End Product		
	Farmer / Producer Organizations - Government Agencies , Agrochemical manufacturers	Local Traders, Exporters, Farmer Organizations, Coops, Manufacturers of Harvesting and Post Harvesting technologies	Exporters, Importers, Coops	Roasters, Coffee Retailers, Soluble Manufacturers, Roasting, Packaging and Brewing Manufacturers		
	Production	Grading	Procurement	Manufacture / Final Assembly	Distribution and Marketing	
	Coffee Farming	Harvesting and Post Harvesting	Raw Material Storage and	Bean Processing	Final Distribution	
1	Soil Technologies and Preparation	7 Harvesting Machinery	16 Conservation / Storage Techniques	23 Quality measurement - Chemical content techniques	32	Packaging technologies
2	Seeds / Hybrids / Plant Varieties	8 Harvesting Tools	17 Dry Milling	24 Decaffeination processes	33	Biodegradable capsules
3	Planting Technologies Propagation techniques	9 Optical - Select on	18 Weight Loss Measurement	25 Freeze Dried processes	34	Capsules
4	Plant Genomics	10 Residues Management	19 Moisture Measurement	26 Instant Manufacturing	35	Brewing Technologies
5	Seedling Technologies	11 Desmucilagador	20 Container Filling Techniques	27 Color / Roasting Measurement	36	Mass Brewing Technologies
6	Pesticides - Biopesticides	12 Drying Technologies	21 Raw Material Packaging	28 Roasting technologies	37	Cold Beverage Techniques
		13 Wet Process Technologies	22 Treatment - Cleaning plants	29 Particle size applications	38	Business Models
		14 Selection Technologies		30 Blending Techniques		
		15 Fermentation Measurement		31 Conservation Techniques		

Source: Authors

This integrated view allows to map opportunities for collaboration and a more intensive use of technologies under the “blurring of the lines” between actors perspective we mentioned in the previous chapter. Under this view new technologies, traditionally seen as only part of the distribution, have become available for origin roasted coffees, so that they can offer a much longer shelf life without product oxidization or deterioration. Bosch packaging technologies, are just one example of new packaging technologies that optimize aroma protection that have been patented. Freeze dried coffee using micro grinding technologies are also examples of producing country innovations and value appropriation. Effectively using the genomic information of coffee species and its pests for the development of new varieties and hybrids and other technologies are another opportunity that generates value from producing countries and provides avenues of collaboration among actors of both ends of the industry. These collaborations will need to acknowledge, protect and compensate for the intangible contributions each actor will provide so that they can be scalable.

3.2. Economic Upgrade in the coffee Value Chain and IP

As we previously suggested, identifying formal and informal intangibles and opportunities for possible cooperation may not necessarily lead to economic upgrading for all the actors involved. Both value chain governance and economic upgrade possibilities have to be taken into account. Value chain literature, categorizes the different economic upgrading possibilities for value chain actors (Gereffi, Humphrey et al. 2001, Kaplinsky 2010, Garcia-Cardona 2016) as follows: process, functional, product and interindustry upgrading.

Process upgrading can be achieved by obtaining efficiencies through improved methods. Applicable GCVC examples include large brands finding savings in roasting, packaging or distribution, growing communities implementing sustainable producing practices, importers developing better traceability systems or farmers introducing more productive tree varieties or more efficient harvesting systems. Process upgrading tends to have significant value added when economies of scale are at play and are particularly useful for larger brands selling in large distribution channels such as grocery outlets.

Functional upgrading is also applicable to the coffee category. One example is that of importers assuming complementary services associated with large roaster inventory management and financing. As noted earlier, certain importers and exporters have also undertaken the function of ensuring long term supplies of coffee complying with VSS, by offering producer assistance services to help them comply with such standards. Other forms of functional upgrading can include coffee growers opening their own shops or selling their own packaged coffee.

Product upgrading can result as part of applying new technologies or by complying with certain specifications demanded. In the case of farmers, coffees compliant with VSS can be considered a form of product upgrading for farmers if the total resulting revenue less additional costs as a result of these efforts generates them more value. Other examples of product upgrading include the use of particular fermentation and harvesting methods to obtain different quality profiles favored by high end baristas in the experiential segment.

Finally, interindustry upgrading can take place when the knowledge and skills used in one sector can be applied to another sector. GCVC examples includes the ability to use knowledge, science and marketing skills from the wine of the beer industry in the coffee industry, or the capacity of farmers to embark in coffee-focused tourism initiatives.

Some of these upgrading possibilities would be more viable depending on the value chain existing governance and the ability to leverage a particular set of intangibles to improve of a particular player value appropriation. For example, process upgrading focusing in productivity under a strong market driven value chain governance may be considered another step in a “race to the bottom” of lower costs and lower prices if those efficiencies are easily disseminated among competitors. In this sense longer term formal and intangible strategies are crucial to be able to alter the value chain conditions under which they work.

Other conditions need to be taken into account apart from the value chain governance and intangible analysis. For upgrading opportunities to materialize in the coffee industry a key consideration is the distribution channel and segment combination which, as noted in the previous chapter, have different implications in terms of differentiation and value appropriation. In the conventional segment “Differentiation from above” strategies focusing on brands, economies of scale and distribution efficiencies are easier to implement than “differentiation from below” initiatives focusing on coffee origins and farmer income (Humphrey 2006, Garcia-Cardona 2016) leading to a different set of intangible strategies and value appropriation possibilities among different actors.

Certain “differentiation from the middle” tactics that are usually considered a product economic upgrade are associated with VSS implementation gave rise to additional actors such as Fairtrade®, 4c®, UTZ® or Rainforest Alliance®. Many farmers saw VSS as an opportunity since in many cases they became a requirement to access the better paying differentiated segment. In parallel, importers and exporters began providing farmer extension services and sustainable farming implementation initiatives to donors and roasters in a form of functional upgrade. These services provided them with a better market positioning as a possible direct trade link with farmers and with additional revenue flows for the services provided, a form of functional upgrade (Garcia Cardona 2016). High profile brands such as Starbucks® and Nespresso® also launched brand specific VSS, which helped farmers in terms of product upgrade but, on the other hand, resulted in a captive governance model making producers more vulnerable to the specific demand growth and procurement policies of these market players.

The direct trade and transparency emphasis in the experiential coffee segment provides more opportunities for farmers and even for independent coffee shop operators to develop a closer cooperation and leverage their individual image and brand positioning. The need to satisfy more complex consumer needs and to make farm content a valuable consumer differentiator, together with the cooperation that can make product upgrade possible at the farm level through more sophisticated growing, washing or drying techniques, as well as with the experimentation of new varieties, now provides the incentives for longer term partnerships not necessarily based on VSS. In this sense the experiential segment’s emphasis in origin and authenticity and direct trade relationships also supports knowledge transfer and product upgrading through the enhancement of capabilities for farmers and producer associations to provide better coffees.

From the value chain theory perspective the best long term upgrading possibilities take place in value chains characterized by relational governance. In these cases, product specifications are jointly developed, leveraging the relational capital of both buyers and sellers and their respective formal and informal intangibles. These win – win relationships may happen more frequently in short value chains when direct trade relationships and mutual trust are established between (usually) small roasters or independent baristas, allowing them to sell highly differentiated coffees with emotional content and value. The product and functional upgrade opportunities for farmers include improved quality and content generation, allowing them to reduce intermediation and obtain better prices. Other types of direct trade relationships are taking place with larger firms, such as those coffees compliant with certain private VSS such as Nespresso AAA standards. In this case a large buyer shares a number of intangible assets associated with process and product upgrading options that lead to a higher quality product produced by a large number of farmers grouped in a cluster, resulting in a differentiated product, yields and improved sustainability indicators.

Clearly the experiential segment and its form of relational governance is a new avenue that shortens the chain and provides additional opportunities for farmer upgrading by the developing of mutually beneficial intangible assets. However, its potential to scale to a large numbers of growers is still limited. Farmers will still face significant challenges in terms of market access, minimum volumes and increased costs to bring a finished product to market by themselves. Under these conditions vertical integration also appears to be an option to a limited number of farmers that can overcome these difficulties and successfully launch their own product and brand or maintain the identity of their product. Many are beginning to acquire the necessary capabilities in their local markets or in urban areas close to their farms through coffee shops or high-end restaurants. However, the large majority of growers are not in a position to forge those in-depth relations that provide new avenues of differentiation, so there is a need to develop a cooperation format, most likely bridged by importers through grower associations, in order to have more farmers to benefit from this model. Thus, in order to achieve scale, developing efficient institutions that also focus on intangible assets will be a key area for success.

3.3 – Institutions and Collective Action

Scalable options that can incorporate a significant number of farmers and can achieve economic upgrade by either reducing transaction costs, vertical integration and/or product/ functional upgrade strategies would require farmer collective efforts to be able to sell higher volumes. These efforts are usually resisted by importers and exporters as they tend to reduce the importance of their role and bargaining power in the traditional segments of the business.

A potential role for IP instruments in the (farmer) supply side can be a way of overcoming a number of governance and practical obstacles. These options range from the ability to provide new and more resilient and differentiated varieties to branding and differentiation efforts that benefit collectives of growers. It can also cover innovations that can focus on more efficient harvesting and post-harvesting methods, tools and equipment. Clearly few producers have the ability to perform individual research and development activities, so this function is therefore assumed by government entities that provide them as public goods or even by private companies that are willing to share their process or variety improvements that would increase supply and eventually reduce their own procurement costs. Sharing this type of industry intangibles is usually provided to farmers without cost and do not necessarily affect the value chain governance structure. Thus, producer associations may need to consider IP tools in order to provide these benefits in a club good system from which farmers can benefit from their own collective or institutional innovation strategies and at the same time help them to alter the value chain governance structure.

From a marketing perspective intangible strategies should also be seriously considered as long-term avenues to alter governance structures if they focus on attributes that belong to specific actors. For example, if the key differentiating attribute is the VSS seal instead of the origin of the coffee, the costs of switching suppliers by exporters or importers to other farmers or coffee regions will continue to be low, making producers vulnerable even after adapting to VSS conditions. Under this logic, if a roaster defines its needs as, say Arabica Fairtrade coffee with minimum quality preparation and specifications (another example of market driven governance), exporters and importers may source these fair trade compliant coffees from a number of countries and certified growing coops or farmers. The larger the available pool of certified Fairtrade coffees in the market, the more market power will the importer have. In these situations, the governance structure does not significantly change even in cases where there is a product upgrade and, as is the case with many VSS producers, certified growers end up selling their coffees in the conventional non VSS segment due to lack of local demand.

These situations explain why the long term benefits of differentiation for individual or a group of farmers to adopt VSS may not necessarily be sustained over time. In this case the “B2B brand loyalty” belongs to the VSS label rather than to the farmer that adheres to the specific VSS practices. This captive governance scheme can be overcome by emphasizing in the origin as a key differentiator, with its own sustainability credentials, rather than to the VSS standard. Clearly if the origin drives client and consumer loyalty the resulting intangible belongs to the farmers. In this sense the ability to develop origin as a collective equity that belongs to a collective of farmers or farmer institutions but can be leveraged by brands and other industry players to create value may be a key to change value distribution and generate relational value chain models. Thus, providing diversity to consumers by focusing on single origins, transparency and direct trade are 3rd wave traits that larger market segments can adapt to by developing a bigger portfolio of coffees and a close relations with specific communities or origins. To be able to sustain over time this type of cooperation, farmers need to consider building their own formal and informal intangibles to ensure that they develop the necessary loyalty and formal business arrangements that lead to a better value distribution. This can provide the opportunity to leverage origin in a larger scale.

Brands belonging to the conventional and differentiated market segments will not be able to launch new single origin products in their portfolio without a reasonable supply assurance and enough economies of scale in procurement and transportation. This brings the possibility of branding and protecting origins as another scalable avenue to provide differentiation and capture long term value added, either through collective or certification marks or by expanding the use of Geographical Indications to the benefit of larger farmer communities or regions. In any event, more than the formal intangible tools and applicable registrations, farmers and their organizations will also need to develop longer term strategies and the necessary competencies and skills to put those strategies to work in their favor.

Developing the capabilities for different economic upgrade strategies may require a process that can take time depending on a particular origin situation. For example, being part of a VSS can also become a stepping stone to make it possible for a cooperative to achieve a process upgrade and then develop its own brand or move up to the experiential segment. Groups of growers that have already developed a sense of identity and may want to consider developing a denomination of origin or a Geographical Indication to ensure local value and roaster origin loyalty, develop specific brands or an exclusive outlet/tourism area.

In summary, upgrading possibilities can result from different actors creating or using their own set of intangibles to create value. Growers, as actors in the GCVC, should consider intangible strategies for their collective benefit as a tool for altering value chain governance and achieving lasting economic upgrade. Scaling up these initiatives requires collective action mechanisms and competencies to develop and implement the necessary formal and informal intangible strategies that can create both market and differentiating opportunities for all industry players.

3.4 A Possible Pathway

Prescribing efficient and bullet-proof avenues to use intangible strategies for different types of farmers, origins and consumer segments in such a varied and evolving industry may be an impossible task. Nevertheless, we have attempted to summarize in Chart 28 different sets of intangibles that play a role for each of the segments and distribution channels described, and how they have been leveraged by different value chain actors for economic upgrading. Clearly the chart is not designed to provide an exhaustive list of value creation and sharing opportunities but rather to illustrate how these opportunities may vary according to the specific segment and distribution channel of the coffee industry. However, we believe it can be a helpful summary of the possible IP tools and informal intangible competencies that different market actors need to have to achieve economic upgrade opportunities for farmers, exporters, importers or roasters.

Chart 28
Coffee Value Chain Governance, Intangibles and Upgrading by Segment

Market Segment	Sold as	Product Specifications	Intangibles		Trends	Governance	Upgrading				
			Formal	Informal			Producer	Exporter	Importer	Roaster	
Commodity Mainstream	Private Label	Low	New Varieties		At home consumption	market Driven Governance	Higher Efficiencies and yields		Functional Upgrade		Economies of Scale lower inventory costs
	Instant Generic		Trademarks	Structured Capital	Economies of scale		Lower unit costs		VMI		
	Mainstream Low value brands		Patents	Process and scalability	Strong brands, low distribution costs		Harvesting, new varieties				
Differentiated	Higher Value coffees in Grocery retail	VSS, Geographical Indications, higher quality, minimum Q grade qualities. Traceability and Information Requirements	Trademarks	Reputation Management and Brands	More quality discerning consumers	new institutional actors, aid agencies, certifiers, NGOs	Process and Product Upgrade	Farmer Support Services to achieve certification	Coordination for VSS supply assurance	Higher Priced Segments	
	Blends in Specialty shops		Data bases	Structured Capital Process Assurance	Premunization & Beverage standardization		VSS compliant coffees	Coops become traceability and farmer service providers	Reputation Management for Roasters	Beverage Services and Standardization	
	Single Origin coffees		New Varieties	Practices and Standards	VSS Mainstreaming		GI compliant coffees	Quality control / specifications			
Relational - Direct Trade	Farm Specific Coffees	Joint Innovation	New Varieties	Knowledge Transfer between growers and roasters and viceversa	Millennials	Relational	Product Upgrading	Specialized - Direct Trade	Specialized - Direct Trade	Product Upgrading	
	Community Specific Coffees	Full traceability	Strong Branding	Specialized beverage preparation	Need for authenticity, Transparency		Tourism			Beverage Innovation	
		Emotional Content	Content Copyrights	Highly Emotional	Technology and communication		Content Generation	Traceability	Traceability	Farmer related Content Communication	
				Relational Capital High Roasting and preparation skills	Sense of community Local, craft	Captive	Coops - Direct Trade	Product Discovery	Product Discovery	Science based communication	

Source: Authors

In the conventional segment, efficient farmers selling mass and not-differentiated quantities may find economic upgrading opportunities in product efficiencies or by implementing VSS formats. These opportunities will also depend on the farm size and location and the sophistication of the value chain and the capacity of growers to implement technological changes in the field. Large growers can also segment their own production, giving themselves the opportunity to participate in different segments with a more sophisticated green coffee portfolio. This scenario may favor large producers with economies of scale that are better prepared for a race to the bottom scenario. Importers will continue to have a significant role in this segment and will probably focus on functional upgrade developing new services that have to do with creating segmented supplies or certain coffees, reputation and traceability management with some forms of direct trade for certain products and logistical and financial management of inventories. In this sense some degree of long term cooperative projects with farmers are to be expected, as well as the launch of origin focused brands. As roasters rely on importers to handle inventory costs, the concentration in the importing business will probably increase as not many firms will have the financial strength to carry roaster stocks for long periods.

The Differentiated segment will continue to have competitive pressures from the experiential segment and will probably need to adapt. Larger chains have the benefit of scale and will need to adapt to a beverage product portfolio that provides more variety associated with origins, cultivars or specific farms. VSS or origin specific content and preparation skills will be featured to reclaim relevancy (just like Starbucks Reserve® or Juan Valdez Origenes ® store formats are aiming to do). The symbolic services offered in this segment will become more complex and will not only rely on the ambiance of the store but also on more specific product content. Thus, importers and farmers or farmer organizations that can provide a good bundling of services of coffee with content will have the better opportunities for upgrade.

The Experiential segment will probably continue to grow and amplify its influence in different markets. Just like 20 years ago when gourmet coffee started to become a global phenomenon, greatly supported by Hollywood movie scenes filmed in differentiated stores, new releases are now showing experiential store formats, helping to communicate and expand the 3rd wave concept to global consumers. In absence of complete vertical integration, the relational form of governance in this segment appears to be the most desirable situation to achieve balanced industry and income growth.

Altering these governance structures in the long term imply the development of capacities to use formal and informal intangible strategies by different actors. It would appear that to scale these opportunities for a larger number of small-hold farmers, institutional and collective models will need to pay a lot more attention to IP strategies. Collaborative efforts can be built within grower associations, cooperatives or larger grower Federations with other industry players, which can lead to better income distribution in the long run if intellectual property tools become a medium to ensure long term loyalty, mostly by increasing the equity of origins. Market and demand trends appear to favor these developments. However, in order to create and retain value for farmers, they should carefully consider their long term strategic aims, as well as their particular context, business and product offering opportunities, the sustainability of its production, and the IP tools that should be leveraged.

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