Changing borders: constructing boundaries and agencing formality and informality in global networks of trade

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Introduction

In recent years, the dynamics of transnational commodity chains have not only greatly intensified but it has been the subject of powerful forces of integration and normalization. On one hand, a logistical capitalism (Neilson, 2012; Quet, 2018) supports a new regime of circulation based on technical infrastructure and standards that discipline and control complex supply chains. On the other hand, market based approaches for economic development (Hart & Prahalad, 2002; Burdinich, Manno-Reott & Schmidt, 2005; Yunus & Weber, 2007; Mendoza & Thelen, 2008) promise a better integration-participation of the poor in the global economy. From the purely economically motivated view of business potential to the new rhetoric of responsible capitalism, the African peasant, the shopkeeper or the trader become coveted partners in the building of new global trading routes.

Such global chains are often confronted with challenges of articulating heterogeneous economic spaces, rules and regulations. They are further hampered by the problem of connecting technological zones (Barry, 2003) of formal markets on one hand and so-called “informal” markets on the other hand (Benjamin and Mbaye, 2012). For many observers (Meagher, 2013), with globalization, the linkages between formal and informal economies have extended in many ways (volumes, geographical scopes, sectors etc.) and their boundaries are more and more ambiguous. This calls for more studies on their connections and the way they are (or not) more or less actually articulated. Our paper seeks to expand upon the notion of ‘market boundaries’ and how they contribute to shape processes of formality/informality in the development, adaptation and performing of global networks of trade. In particular, we are interested to understand how global trade combines together through the formal and informal; what ‘boundary work’ or ‘translation work’ is required over time for this to happen; and what implications the notion of market boundaries may open up for market studies.

By acknowledging that markets exist in the form of concrete situations and sites (see Finch and Geiger, 2010), we inductively draw upon different exemplars of ethnographic fieldwork to explore: a) how both localized and international transactional chains are comprised of different layers of formality and informality that combine or compete; and b) what processes of boundary work are required. Ethnography is particularly useful here as this method can be located between structure and process to help us to illustrate how complex processes of boundary work go underway to navigate between both informal/formal worlds.

Theoretical background and research gap

“The constructed opposites of formality and informality have been a constant of the development discourse for more than half a century” (Guha et al., 2006:2). Since the concepts were developed in the 1970s, the permanent debate in literature on informal economies has been concerned with the operationalization of the definition, especially for statistical and policy purposes engaged with the issue of economic development (Elyachar, 2003). Two main controversies are still under debate. The first
one is about the delimitation of informality. A prevailing definition refers to “income generating activities that operate outside the regulatory framework of the state” (Castells and Portes, 1989; De Soto 1989; Feige 1990; Harding and Jenkins 1989, quotes by Meagher, 2013). But this definition is limited in different ways: first, it embraces very different realities such as illegal and underground economy (trafficking, black markets) and the widespread of ordinary goods and services providing in developing countries. In other terms, it encompasses the context of both strong and weak states in a single set of considerations. Scholars attempted to overcome such difficulties by assimilating informal economies to “traditional forms of regulatory arrangements operating outside officially sanctioned channels” (Helmke & Levitsky, 2004). Hence characterizing the spectrum of these institutions becomes a complex issue.

Finally, in the 1990’s, two reviews (Hariss, 1990; Sethuraman, 1992) have called into questions “the dual economy perspective” and intended to give more attention to the linkage between the two forms of economy. A relative consensus has finally emerged to suggest that informality and formality should be more considered as “a continuum than a binary variable” (Benjamin & Mbaye, 2012; Guha-Khasnobis & al., 2006), defined by a combination of criteria (forms of registration, tax payment, accounting, access to back credit, etc.)”, with variations in the way scholars identify the most significant. Our contribution echoes such consideration of continuum and combination of criteria referred to the reach of official governance mechanisms, emanating from diverse kinds of institutions (States, International Organization, MNC, NGO, etc.).

In recent years, this literature has been further renewed with the observation of a growing blurring of the boundaries along the formal/informal spectrum in a context of geographical expansion of transnational commerce; with the institutional weight of international organizations (WB, IFRC) and the raise of new conceptions about the state power; and the emergence of new intermediaries (micro-credit institutions, NGO, local firms) at the interface between formal and informal arrangements. Researches have examined the nature of the formal/informal linkages in terms of dependence and asymmetry, with attention to who benefit or lose for the various stakeholders in the value chain, and with considerations on the impact on the regulatory structures of both formal and informal economies.

For many scholars, in Africa, the linkages are exploitative, undermine the growth of the informal sector and intensify poverty and vulnerability. The Global Value Chains approach (Carr and Chen, 2002; Dune and Villeda, 2005) has raised a debate on the risks or benefits of global commodity chains on the exploitative or benefits for workers or firms: whether they are maintained invisible and at the margins of standards and legal regulation; or whether micro-enterprises get potential development through integration, based on new policy frameworks. Within different academic or grey literature based on developmentalist perspective or alternatively business approach (BOP), such issues has lead to address the institutional design that can benefit the informal economies, the role of intermediaries (NGOs, local firms, microcredit institutions) in the organization of value chains, and the emergence of new brokers. More critical approaches have questioned the dispossession of the poor as becoming new infrastructure (Elyachar, 2005) and the capture of peri-capitalist system by the expansion of capitalism (Tsing, 2015).

Thus, the literature on formal and informal economy and their linkages has rather highlighted various mechanisms of value capture and/or distribution, with the assessment of risks or benefits for informal workers, and with the critics of more or less asymmetry or dependence. It is driven by the objective of characterizing the nature of relationships between entities (workers, firms, intermediaries) already qualified as formal and informal depending on their level of official registration/accountability.

Our contribution also investigates the formal/informal linkages and the integration of poor workers and small entrepreneurs of developing countries into globalized trading routes, but in a different way. We propose to take the articulation of these different economic forms as an unsolved issue and to explore how do people manage the conversions at their boundaries. To do this, we set market practices and calculative spaces first and suggests to trace the ongoing process of assembling, qualifying, valuing,
etc. allowing a product to circulate across various worlds thus variably situated in this continuum between formal/informal.

On that basis, our analytical framework is based on three proposals:

i) First, we address markets from a practical point of view, i.e. by following and describing mundane and ordinary practices such as collecting, gathering, sorting various qualities, arranging payments, etc. By tracking such market practices, we have access to the way goods circulate and are transferred throughout heterogeneous calculative spaces, ecologies, value scales, etc. Our starting point is therefore that a global chain is an arrangement/agencement of multiples versions of markets, depending on the variety of exchange practices, normalization and representations (Helgesson & Kjelberg, 2006). It is then crucial to highlight the process of translation between one market to another (Callon, 2015; Tsing, 2015), without prejudicing their hierarchy or dependence. It is the ordinary making of the market, with its constant disjunctions and disruptions, overcome by creative adjustments by stakeholders at each stage of the transactional chain, that reveals the nature of relationship between partners.

ii) Second, bringing into play conceptual tools from STS and organization theory, we keep focus on the process, achievement and management of coordination along transactional chains (Czarniawska, 2004; Hernes and Maitlis, 2010). Recognizing the benefits of taking a boundary perspective, we argue that there are reasons to move beyond and expand the understanding of boundary work that is framed intra or inter-organisationally (Cash et al 2003, Clark et al. 2016) to better understand how dynamic aspects of market boundaries can be formed and captured in translation.

Organization science and science studies have introduced for years the concept of boundary work to highlight the different ways in which distinct communities of practices can interact in the course of their shared processes and activities. In these perspectives, artifacts (objects, standards, classifications) can both foster (Star and Griesemer, 1989) or prevent (Bechky, 2003) exchanges and cooperation. We assume that global networks of trade link different worlds that host different activities when achieving the circulation of goods and processes of value. Boundary work as a concept is then relevant to render the ‘hidden activities’ (Strauss, 1988) required to manage these market boundaries. An understanding of the creative and constant translation process occurring in the course of transactions brings to light the continuous efforts involved in constructing market boundaries.

iii) Third, we are particularly attentive to the way trading networks engage with territorialized and locally differentiated segments within global supply chains. Some are integrated within technical zones and quality standards organizing the government of economic life in transterritorial spaces (Barry, 2003). Others at the margins witness a capacity to overcome changes in value, scale and institutional discontinuity (Guyer, 2004). Taking the circulation of goods as the point of entry for exploring exchange processes shifts the focus from institutional contexts in which networks are embedded to the heterogeneous, resourceful, and assembled channels that allow their circulation and to all socio-technical intermediaries, sometimes diffuse and invisible, that mediate their transfer (to completion).

These three key perspectives emphasize that a process of translation and adaptation is required to connect heterogeneous worlds. Moving goods from one world to another supposes a whole series of operations of requalification, transformations that allow for both new use and change in value.

Methodology

The analysis builds upon distinctive cases studies of international networks of trade between developing and developed areas: second-hand car batteries, Malagasy wild pepper, Indian Sarees and sustainable coffee. Our proposition is based on a cumulative perspective where the juxtaposition of cases aims at highlighting some specific properties of the boundary work at the formal/informal intersection. All cases describe complex trading routes that aims at organizing the circulation of commodities and producing value between remote rural areas in Africa or Asia and connected/urban places of Asian or
Western countries. Within these long routes, African or Asian rural areas can be production as well as consumption places but as we'll see, many nodes can host many stages of conversion processes.

Four ethnographic case studies were conducted in Madagascar, India and Uganda across the period 2010-2018, with the aim to obtain in-depth understandings of the everyday practices of actors in dealing with formal/informal market boundaries. Our first case describes the downstream circuit that brings to Madagascar European used car batteries via transnational and clandestine import. We trace how connections with small-scale economic circuits connect urban centers with the countryside and accommodate these products to meet local demands (Cholez and Trompette, 2017). In the opposite direction, the circulation of endemic wild pepper fruits connects forest dwellers in remote areas of Madagascar to gourmet shops and retailers through a chain of intermediaries who gradually transform wild fruits into formalized food products. Another case seeks to understand how market boundaries can coalesce together to preserve and sustain Indian Sarees within formal market retail outlets who have sourced hand-woven sarees from tribal weavers belonging to specific subcultures of weaving and manufacturing art forms. Finally, the sustainable coffee case focuses on the farming and exchange practices of smallholder coffee farmers in Uganda engaged in both formal and informal value chain practices (see Onyas and Ryan, 2015).

Following Hammersley and Atkinson (2007), we examined the actions and accounts in the everyday contexts researched and gathered data from a range of sources including participant observation, interviews, informal conversations, field notes, documentary evidence and visual methods. Essentially, a shadowing methodology (Macdonald, 2005: 5) was pursued in each case study, allowing us to obtain rich, first-hand, often “trivial or mundane [and] difficult to articulate” details of interest in this study. We followed the product, people and transactions along the value chains and at the nodes where exchanges occurred to investigate the uncertainties encountered and the way actors dealt with them.

The data, initially collected for independent deep research, were analysed thematically according to a grid that focused on the geographical and economical product trajectory along trading routes, the identification of the involved actors within the chains - especially the intermediaries, and finally the disruptions and uncertainties at the formal/informal borders and the way they were managed. Table 1 below details the themes identified per case study, which centre around the formal and informal practices of actors.

Table 1: Thematic insights from Value Chain Actors, Disruptions and (In)formal Market Practices

<table>
<thead>
<tr>
<th>Value chain actors</th>
<th>Second hand car batteries</th>
<th>Malagasy wild pepper</th>
<th>Indian sarees</th>
<th>Ugandan coffee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importers/ smugglers</td>
<td>Forest dwellers</td>
<td>Bunkaari social enterprise</td>
<td>Smallholder farmers</td>
<td></td>
</tr>
<tr>
<td>Repairmen</td>
<td>Local intermediaries</td>
<td>Bunkaari retail chains</td>
<td>Sustainable coffee buyer</td>
<td></td>
</tr>
<tr>
<td>Intermediaries</td>
<td>Social networks of intermediaries</td>
<td>Weaving communities</td>
<td>Local traders</td>
<td></td>
</tr>
<tr>
<td>Taxis</td>
<td>Exporters</td>
<td>Traditional intermediaries</td>
<td>Exporters</td>
<td></td>
</tr>
<tr>
<td>Rechargers</td>
<td>Consumers</td>
<td>Customers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value chain actors</td>
<td>- Irregular supply from smuggling networks</td>
<td>- Pepper harvest as a new activity without even</td>
<td>- Challenges forcing weavers becoming contract job-workers, a clash of values</td>
<td>- Variability of the final quality of the coffee</td>
</tr>
</tbody>
</table>
- Uncertainties on the quality of the used batteries and their reuse potential
- Deficient transport infrastructure from town to remote villages
- Fluctuating incomes hence uncertain demand for energy
- Informal quality norms
  - Irregular production
  - Cash availability
  - Deficient transport infrastructure from town to remote villages
  - Avoidance to formal trading system by forest dwellers and intermediaries versus tracking requirements of exporters.
- Fluctuating incomes and lack of cash availability for weavers
  - Irregular supply due to the long time required for hand production
  - Mismatched demand and supply hence the need for the social entrepreneur to establish links with intermediaries and source suppliers from weavers in different geographical locations.
- Fluctuating incomes and lack of cash availability for the farmers
  - Rejection and deviation of second quality coffee by sustainable oriented intermediaries
  - Pertains to informal market practices involving farmers

<table>
<thead>
<tr>
<th>Format of formal/informal market practices</th>
<th>Conversion</th>
<th>Combination</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion process from western waste to energy storage device</td>
<td>Translations stages from informal practices to western tracking and transparency requirements - Records of transactions captured and digitized.</td>
<td>Combination process Social enterprise playing an active role to: support the national heritage/product, agence actors/women, and make the informal market more attractive to urban formal market customers</td>
<td>Defined product qualities and standards, prices, actors, and value chains. - Centre around sustainable farmers’ practices</td>
</tr>
</tbody>
</table>

**Findings**

Our cases describe three main forms of boundary work articulating formality and informality along transactional chains: conversion, combination and derivation. The process of **conversion** relates to an old but ongoing commerce where the informal economies of developing countries recycle waste from western economies. The second form of boundary work, the **combination**, concerns cases where the performance of the supply chain is based on its capacity to integrate at different stages, parts of formality and informality. A last form of boundary work consists of **deviation** in process. The products trajectories along the commodification process can be hijacked to switch from one market to another through informal and hidden arrangements.

1. **A story of “conversion”: The Second hand car battery market in Madagascar**

The first case study refers to a situation where marked boundaries separate formal and informal arrangements over the course of circulating goods. Transferring it from one world to another then to engage in a process of “conversion” where intermediaries along the supply chain undergo a fundamental transformation of goods through its remanufacturing, requalification, and circulation between heterogeneous regimes of value. The product is rerouted from its formal existence, from its predefined
use and normalized economic circulation to its embeddedness into African rural popular economies. The work of intermediaries is crucial to cross market boundaries between heterogeneous market agencements and incommensurable calculative spaces. Now we describe the trading routes of second hand car batteries from Europe to Madagascar.

- **Background: the product trajectory and the transactional chain**

Living “off the grid”, rural or peri-urban populations of Madagascar have overcome public supply deficiencies through innovative do-it-yourself solutions to provide power to their TV, radio or mobile phone. Car batteries are one of innovations. Beside the imported low-cost car batteries imported from China and sold in urban Indian–Pakistani shops, a large proportion of all other car batteries, considered as better quality-price performance, come from Reunion Island and are sold as second-hand products.

Used batteries are identified as a hazardous waste and their trafficking is internationally forbidden according to the Basel Convention and its successive amendments. However, an upstream circuit brings Madagascar used car batteries via transnational and clandestine import. They are two types of smugglers: those who import a lot of products, including batteries in containers, and those who trade second-hand cars in which they hide batteries, often in the trunk or in cushions. In both cases, the frequency of battery arrivals seems regular—each importer tries to organize four shipments per year—and a highly organized network ensures a steady flow of products. Because importers know each other, they organize the calendar of the battery supply to avoid crowding the market from season to season.

Once the batteries leave the port, they are sold to the repair men of the local craft industries that feed the economic circuit of energy. The batteries are distributed in popular markets or in specific quarters of town where a few dozen sellers congregate. A range of (micro) businesses operate locally in the market of car batteries as products-providing electric services that more or less specialize in the repair, maintenance, and recharging of batteries. Energy access for people living off the grid is also a matter of (re)connecting to the grid, regular supply, and maintenance, which also means recurring payment for an economically precarious population. The privileged commercial partnership between rechargers and consumers is an important element of this infrastructural organization. Regardless, all rechargers have a stable core of consumers with whom they maintain close, personal trading ties. A set of material means of display and accounts also support the reliability of exchanges, thereby lending stability to market arrangements. In electric workshops, sale and recharge prices are clearly displayed, and the circulation of batteries to be recharged is rendered secure by a system of tickets stating the date, the power of the battery, and the client’s name.

- **Disruptions in the chains and creative arrangements**

Once described the transnational and local trading network of second hand car batteries, we suggest to pay attention to disjunctions and disruptions at each stage of the transactional chain where people invent creative adjustments and reframing in the course of transactions.

The first critical critical junction can be situated at the port when batteries are smuggled before ending in a clandestine market. Removing the batteries from Reunion Island getting them into Madagascar, getting them out of port, and taking them to protected areas to negotiate their sale are all risky steps that importers execute with the help of connections in local networks. These logistical operations bind import trading networks with local circuits supplying households with second-hand batteries. All batteries are exposed so that repairmen can see the available products and assess their condition that can vary a lot. Estimating the quality of batteries is a chief competency of the repairmen. The importer gives a first price, but negotiations really begin after this estimation. The examination, analysis, and calculation of the batteries in terms of their potential for reuse together factor in determining the best batch and price that a repairman is willing to pay. In the context of supply shortages, repairmen tend to buy as many batteries as possible, drawing upon their expertise to increase the value of their investment. This dynamic explains why assessing the condition of the stock is so critical, as much for the future
requalification of the products as for negotiating better prices and avoiding mistakes in calculating the entire operation’s profitability. The second core intervention of intermediaries consists in converting waste into new storage energy power for domestic use. The extent and level of skills of these intermediaries can vary, though all in one way or another participate in the (re)qualification process. Repairmen’s experience and skills are deployed when the battery has to be repaired or recycled with or for spare parts. The repairmen’s know-how of their craft and artisanal equipment transform the battery by replacing the external envelope, reconstituting the terminals and changing or recovering plates. The re-engineering of batteries can be described as a form of recommoditization insofar that the objective at the end of a battery’s life deviates from its normal trajectory to be restored as a new commodity.

The third informal arrangement supports the circulation of batteries in between urban and rural areas. The open question thus becomes one of carrying and transport, for batteries as heavy objects, and the few people with the benefit of transportation face deficient transport infrastructure (e.g., public transport and roads). The problem of recharging batteries is also an economic issue, for people depend on fluctuating economic opportunities and volatile monetary incomes; their expenses often fall to short-term priorities, and energy is more or less an intermittent expense that can be deferred. The sociotechnical arrangements through which the regular supply of battery recharging is organized are concerned with relational and material systems that convey stability and trust as well as flexibility and resilience. This sociotechnical assemblage of relationships and exchanges can be conceived as an infrastructure in itself that daily supports the provision of energy in a way adjusted to people’s means and needs.

To sum up: The trading route of energy refers to a set of coordinated yet widely distinct regulations. In the upstream supply chain from Reunion Island to Madagascar, a few of the largest entrepreneurs who play with legality control the import trade with large, regular, but appropriately infrequent supply waves. They are connected to local repairmen networks involved in the valuation process. In downstream trading routes, local economic circuits of repair shops, ambulant intermediaries, taxis and rechargers supports the regular supply, recharge, and maintenance of batteries. In this system, commercial relationships involve a myriad of circular exchanges and micro-arrangements, with frequent, familiar, yet intermittent and spatially distant transactions. Repairmen are the pivot point in the interconnection between large and small informal, international and local routes of goods. Unsurprisingly, they appear as the key architects of such artifact requalification. Along trading networks, car batteries move across long and short distances, undergo metamorphoses, acquire new properties, and experience qualification and valuation reassessment. To be remarketized, a set of qualities (e.g. origin, technologies, amps) is transposed in the assessment of a second-hand lifetime. Repairmen and their ability to qualify, redesign, and regenerate waste can be considered to function as nodal hubs of these informal economies.

2. Two stories of “combination”: The Malagasy wild pepper market and the The Indian saree market

We move now in the exploration of two different case studies which provide a good illustration of the way formal and informal arrangements combined as and when goods circulate from production sites to market places.

As in Tsing’s ethnography of the mushroom’s global commodity chain, we will consider stage by stage the continuous process of qualification and labelling of authentic products: whether wild (pepper) or traditional, products remove from their original site (the forest, the home workshop), genuine production forms (collection, traditional skills) and on the ground economic circuits emerge to high-quality market segments. Unlike the previous case, the product identity doesn’t radically change, but its “own essence” becomes marketizable and valuable. However, like in Tsing’s case, this continuous
qualification process occurs through the articulation of discontinuous spheres in term of calculative practices, pricing, transactional arrangements, sorting practice, quality criteria, etc.

i) The journey of Malagasy wild pepper, from natural forests to international trade circuits

Malagasy wild pepper, or Voatsiperifery, is endemic spice of Madagascar that was “discovered” by French chefs less than 10 years ago and has since then been gaining a growing gourmet notoriety due to its unique organoleptic properties and its exotic origin (Razafimandimby et al. 2017).

- Background: the product trajectory and the transactional chain

Our story begins in natural rainforests on the East coast of Madagascar where pepper fruits grows on wild lianas that climbs up to 15m high on large trees and are collected manually by forest dwellers who are among the poorest of the Malagasy population. It requires longs hours of forest walk, climbing or cutting trees and fruits transportation. Picking is done one or two days before the rural market day in order to sell their harvest fast before it rots or before they are caught with it.

The first transaction occurring in the value chain occurs at the weekly local market. Buyers are locally well-known intermediaries. The price paid depends on the weight and the quality of the stock sold. Intermediaries evaluate the quality of the tsiperifery they buy visually. They empty the bags to assess the maturity of the fruits. Rotten and immature fruits are sold cheaper. This price is set by the local intermediaries. Competition between intermediaries does not lead to a war on prices. On the contrary, intermediaries tend to match their colleagues prices. It is considered fair to short-cut a colleague by posting a sub-handler on the way to the market but it is not considered proper to buy at higher prices than the other intermediaries. On the Ambongamarina market we surveyed, this collective strategy allowed intermediaries to contain purchase price increases over time.

The transaction is mandatory: under no circumstances could a buyer refuse to buy, even if he did not order it. Such behaviour would be considered an insult and, he would endanger his reputation. From the dwellers perspective, Tsiperfiery picked in the forest does not really belong to them and they are not confident to sell something they did not grow or produce. Dwellers get paid for a picking service more than for fruits they can’t claim ownership on. The price paid, therefor, does not depend on product scarcity or quality but on an estimate of the amount of work, its intensity and – occasionally, its quality. Amounts traded are what one man can carry on his back. A bag of 20kg can be bought for 50.000 ariary, about half a month of an average wage. A decent sum in a rural market but not a fortune to die for.

Intermediaries are experienced traders with accounting and negotiation skills, access to transportation means, storage and transformation facilities. At this second stage, they gather their products in a small district where they rely on an existing social network of family members, friends and business partners. This social network includes some people who can monitor the products available on the markets, some who can speak on their behalf, whom they trust enough to buy in their name. Their local notoriety as rich people able to deliver significant amounts of cash is important to establish trust with sellers, all the more in rural areas with limited access to bank and credit. Reputation also matters when intermediaries sell them products to export companies. Their reliability, their ability to deliver large quantities of various products, to fulfil the orders passed, the quality of them products is evaluated by the export companies. This second transaction is critical as it marks the entrance of the Tsiperifery in the formal economy. Pre-orders and prices ranges are first negotiated before the picking season. Once the picking season starts, exporters place orders for a fixed quantity and usually grant partial advance payments. At this stage, a buyer may refuse a transaction if the quality is too low. A typical transaction is a delivery of a few hundred kilos of dried fruits in exchange for several millions ariarys, an amount of money that requires a small bag to conceal and is not safe to walk the streets with. When a lot arrives in the warehouse, it is inspected visually and manually. The size of the fruits, the absence of rocks, nails or pieces of wood, the ratio of rotten fruits is evaluated, the price may be lowered or some parts may be
refused. Once the Tsiperifery enters the exporter’s warehouse, it weight, quality, sanity get recorded and a traceability assessment mechanism may be set into motion.

Tsiperifery exporters are declared companies operating under the Malagasy law. Most of them export a wide diversity of Malagasy agricultural products such as cloves, vanilla or baobab powder. They range from small companies selling already packaged lots of spices directly to retail shops to large companies selling large quantities of products to agro-industrials and European brokers. Export transactions are framed in a very formal and standardized system as each exported lot has to fulfill both Malagasy export regulation and European import constraints (taxes, sanitary controls, signed contracts, proofs of shipment and payments). Both Malagasy and European international trade infrastructure are used to provide trust and compliance of each transaction.

- **Disruptions in the chains and creative arrangements**

The Tsiperifery supply chain is characterized by a never-ending struggle on quantities and quality. Harvests are done occasionally. What is collected depends on what Nature is kind enough to give. The weak logistical infrastructure includes poor phone coverage, poor roads and the absence of any banks. Logistical failures are dealt with by using multiples transportation means such as buses, private cars and competitor’s trucks. Information circulation relies on peoples using three different phones, one for each telecommunication network and by hiring sub-contractors in each village. The flow of payments is an issue in itself as the absence of a banking system in rural villages forces all payments to be done in cash. Cash availability and advance payments are an important part of each transaction. The effective organization of the supply chain has then to absorb the uncertainties of fluctuating quantities harvested, logistic failures and maintain the quality of the pepper collected, transported and transformed. Without legal regulations, transactional trust relies on social networks, reputation and the recurrence of transactions. The growing demand and the competition to pick open-access resource leads forest dwellers to harvest immature fruits and to cut trees they can’t climb, leading to the depletion of the resource. Local intermediates then develop strategies to cope with low quality lots they are forced to buy and have difficulties selling. The pressure of a growing demand despite stock depletion leads them to lower their expectations on quality in order to fulfill their orders. Several techniques are used to mask the pepper low quality: drying the fruits, blending large quantities of good quality peppers with small amounts of bad quality peppers and washing the rotten fruits with vegetable oil to make them shine.

From the dwellers perspective, Tsiperifery picked in the forest does not really belong to them and they are not confident to sell something they did not grow or produce. Dwellers get paid for a picking service more than for fruits they can’t claim ownership on. Its legal status is itself unclear as the administration still hasn’t added Tsiperifery to the list of the official list of forest products that can be legally harvested. In most cases, harvests are done in public forests or even in protected areas. Dwellers have only a vague understanding of what is legal or illegal to do in forests and fear to be caught by police officers for some reason they wouldn’t understand. Most intermediaries tend to dodge formal institutions too, but for financial reasons. They should theoretically hold a professional card and pay local taxes at municipal level and regional level. In practice, only one out of four did follow these rules, the other either bribing officials or using collective transports to dodge economic barriers. They are, however, slowly led to adopt more formal practices by exporters who are bound to maintain a formal accounting system. The transactions done in major cities and the use of some more formal documents (proof of delivery, proof of payment) exposes them to the weak but existing legal system, even thus bribing their way out is still a preferred option. The development of trading labels such as Fair Trade and organic agriculture is a more powerful incentive that also leads some intermediaries to adopt a strategy of compliance with formal tracking system.

In order to sell their products on the international market, exporters have to bend to international regulations and to comply with quite formal constraints (gathering license, proof of tax payment and proofs of compliance to environmental and social regulations). They are supposed to be able to assess the region of origin of the products they buy.
To sum up: The Tsiperifery supply chain links two very different situations. On the one end, formality is not welcomed. On the other hand, it is mandatory. A first translation is performed by intermediates at local level that addresses mostly the intrinsic qualities of the product. Bags are weighted and the quality of the lots is visually assessed. Lots are combined to match the quantitative and qualitative expectation of the orders passed by exporting companies. The uncertainty of its legal status is reduced as it becomes a tradable product of unknown (or unspoken) origin, legal property of the buyer. Tsiperifery lots have become tradable products but are still traded through semi-informal circuits. This informality is here bound to tax evasion and quality fraud strategies. Transactions between intermediates and exporting companies constitute a second translation toward the formal economy. But the first time, the amount of product traded, prices, qualities and the identity of the buyer and the sellers are written down and archived. This translation of bags of peppers into figures, names and identification information marks the entrance of the Tsiperifery lot into the standardization process of formal economy.

The next step is done during the export transaction. A significant work has to be performed by the exporting company. The first work is performed on the product itself. Additional transformation is required for the products to match the formal expectation of the international trade circuits: it is sorted to match quality requirements, weighted and packaged in standardized quantities, analysed to match sanitary constraints. A last translation is required to insert the products into several databases of the exporting company accounting system, the Malagasy environmental administration, the Malagasy customs, the European customs and the European Sanitary administration. This digitalization then marks its entrance into the international trading circuit.

ii) The Bunkaari India story

India has a long tradition of handmade items and artifacts being marketed at the local level across its many sub-cultures and regions. Handloom woven sarees are, unfortunately, a dying art of India, now on the verge of extinction. There are several weaves, known mostly by the place of their origin, that have very few master craftsmen left to either weave the magic of yore or to pass on the skill to future generations as the earnings are not good enough for them to stay aligned to the trade of their forefathers.

• Background: the product trajectory and the transactional chain

Bunkaari India the company was established in 2012 with a vision to provide sustenance to the traditional craft-persons and their families by providing them direct access to markets. The original idea was to focus on the traditional Indian women garment, namely ‘saree’. Where the idea of ‘Bunkaari India’ was conceptualized jointly Umashankar Venkatesh and Mr. Anand Agarwal. Anand was an MBA belonged to a business family which was in the business of retailing of fabrics and garments. Umashankar was a full-time academic in a business school from the marketing area, who had incubated many start-ups with his students prior to this.

One of the key characteristics of traditional weaving traditions in India has been that weaving has largely been confined to specific castes and communities. For instance, the Muslim community has traditionally dominated weaving as an occupation in North India whereas the trading of the output has been largely owned by Hindus. Many of these communities have restrictions on their womenfolk with reference to the system of purdah (the veil) which implies that women cannot be seen by males beyond their immediate family (Roy, 1979) which obviously impacts the possibility of their going out of home and working. Weaving of handwoven traditional textiles in India has been a family based endeavours wherein more than one member of the family is involved in the weaving operation, with one senior (usually male) member being the master and everyone else following his or her lead. The advantage of working at home is that different family members can work upon the same loom (and batch of work) at different times, in spells. Socially, this home based enterprise has an extremely positive implication as
female family members who otherwise may not have been allowed to go out of their homes for work are frequently seen to be working on looms with many of them being master weavers, all the more with driving male weavers getting away from the realm of weaving and looking for work outside the home.

Bunkaari was incubated and conceived as a chain of brick-and-mortar retail stores in the formal market with their assortment being sourced directly from weavers across the vast hinterland of India’s informal market. The business proposition revolved around providing diverse and original hand-crafted textile to the educated and urban class of the society. The conception of Bunkaari India was to be close to a social enterprise - one that focused equally on the welfare of the traditional weaver families located in the vast informal territories of India, unknown and unsung as far as their master craftsmanship is concerned, ridden with resource constraints and saddled with poor or non-existent marketing capabilities and market access. The consequence of which, has been that weavers and their family, whose livelihood depends upon these artisanal endeavours, get exploited through a range of intermediaries who take away a disproportionate share of the surplus.

Bunkaari India created its first store in the East Indian metropolis of Kolkata (Calcutta) and named the store as ‘Bunkaari’ – (which literally meant hand-weaving) with material sourced directly from weavers from 11 different regions of India to start with. Through word-of-mouth alone and having strategically located the stores in one city to start with; with no advertising budget and minimal presence in social media; conservative price points (as compared to other similarly themed retail store brands) – the business broke even in its first year of existence itself. People loved it for genuineness of the wares and the moderate pricing and the brand story pictorially depicted in the stores through still pictures and videos.

- **Disruptions in the chains and creative arrangements**

In the case of such family based handloom saree weaving enterprises, the biggest constraints for the weavers traditionally have been – the lack of capital to buy raw material (in this case silk or cotton yarn); small production lot size (ranging from one to two looms per family); long gestation periods (usually 2 to 3 sarees are woven per loom per month); no direct access to markets (and even if one wants the capacity to show a range of sarees for customers to choose it is very limited). All of this forces the weavers to literally become either contract job-workers for traders or wholesalers of sarees; or take their meagre output periodically to traditional local saree exchanges where they would be forced to auction their lot of sarees to a handful of buyers (again the same set of retailers/wholesalers) present. The remuneration weavers of these traditional categories of hand-woven sarees receive are usually far less from the final retail price, as the channel partners (wholesalers and retailers) control the market and the unorganized weavers have very little say in the margins they receive. The biggest challenge in sourcing sarees directly from weavers were that apart from the geographic location of each saree category or type, not much else is known about who the weaver families are and their exact addresses.

Locating and meeting the weavers was also a hit and miss affair as the womenfolk who are usually available at home were unwilling to talk to unknown and unfamiliar males. Once the contact was made, usually with the male member of the family designated for any such conversation, there was an initial trust deficit to be bridged as the weavers have some past experience of having been short-changed by similar such representatives. They also narrated how when a direct sourcing deal like the one Bunkaari went through, the traditional intermediaries who had supported them became unhappy and vindictive towards them. And if the new arrangement did not work out the weavers had to fall back upon the same old clique of intermediaries who would become even more mercenary to teach them a lesson.

The Bunkaari business model was designed to open exclusive branded stores in different cities of India which would be stocked only with ‘Sarees’. To date however, operations are based in Kolkata (the formal market). Bunkaari has established relationships with some saree weavers directly and some weavers’ cooperatives through which direct dealings are done. The impact of this is that dependence on intermediaries was almost nullified and the maximum advantage in terms of profit share went to the
producers. But the challenge with weaver families was that their output per unit time per family was limited and this forced Bunkaari to be in touch with some intermediaries too who could satisfy the throughput volume requirements as predicated by market demand. Currently price points for selling to end consumers range from 800 rupees and above.

The social enterprise situates itself in a process of valuation by propagating a unique set of pledges that it governs itself by to shape and manage the chain. They claim ethical in business by improving the quality of life of weavers. Bunkaari is adamant that they do not simply sell a price tag but also an information tag to display product knowledge and bring the craft closer to the customer. Periodic training programs are given to customer facing staff to share this at the front end. They seek to share the story of the craft and not just convert footfall into sales. They want customers from the formal market to leave feeling enriched with additional information. This awareness is important as power looms now are dominating the markets and to keep handlooms sustainable they need to make the end customer aware that their engagement with the brand is enabling this to happen. Though there are several stores selling handloom and handicraft products, there is none as a chain of stores that focus solely on near extinct or endangered weaves of India, and certainly, there is none that offers the best of tradition from the remotest villages of the country under one roof, with the objective of reviving dying art forms.

To sum up: Combination becomes an essential value creation ingredient in the Bunkaari formula. They take it upon themselves as a social responsibility to prevent the rich national heritage of handloom from dying a slow and painful death. Bunkaari India therefore shares income to provide seed resources to weaver communities in rural and backward areas. In doing so they buy back their entire produce of eco-friendly handwoven textiles and encourage entrepreneurship, particularly amongst the women. Through their social enterprise, the Bunkaari Indian Foundation, they have embarked on training women, having limited access to alternate livelihoods, in elementary business skills for managing home based businesses.

They believe that sensibilities to traditional skills matched with available resources of middle-urban class and emerging consumer aspirations will create a new India where the informal market would have an entire place i.e. within villages, spearheaded by empowered women as the binding and decisive force in their family’s economic growth. Bunkaari India’s growth has therefore been interlinked with the prosperity of traditional handloom weaving families across the nation to enable a positive growth curve across both informal and formal market boundaries.

Based on empowerment goals, sustainable market, and fair trade principles, the firm has however to maintain trading relations with traditional intermediaries, despite their disputable trading practices, in order to get access to the volumes required by the supply of the formal market. In the shadow of transactions, moral engagements have to coexist with informal arrangements and traditional asymmetry.

3. A story of “deviation” : The sustainable coffee market in Uganda

This last story is the sustainable coffee case, which describes a third situation where, in contrast with the previous cases, informal arrangements link two segments of the global market. Whereas the sustainable market segment is separate from the mainstream one, according to specific production process and norms, deviation and informal flows are observed from one segment to the other, along with producers who switch between buyers because of financial arrangements.

• Background: the product trajectory and the transactional chain

Coffee is the biggest export of Uganda, one of the leading global producers of coffee (in its raw form). The crop is grown by approximately 500,000 smallholder farmers and is exported mainly to the EU. The study conducted focuses on two coffee markets in a South-Western district in Uganda – at the global value chain link between farmers and Arabica coffee buyers. The farmers here grow two types
of coffee – unwashed and washed (parchment) Arabica coffee, distinguished by the processing methods used. Unwashed coffee production involves two dry processing methods including: drying cherries (under the sun) immediately after harvest; and hulling cherries in order to remove the outer layers of the dried cherries. Conversely, washed coffee production entails a series of wet processing methods: removing husks from freshly harvested cherries using machines (pulpers), fermenting, washing and drying processes.

In 2003, a local firm introduced wet processing methods and sustainable farming practices in the district, which 30% of the farmers adopted. These farmers sell parchment directly to Buyer 1 who controls the market and is the sole buyer of parchment in the district. This firm is also the only exporter of roasted coffee in the country. Parchment sells at a higher price than unwashed coffee in the world market. Since the introduction of coffee in the country in the early 1900s, farmers in the district have produced unwashed coffee, sold through conventional channels dominating the Ugandan coffee market.

Two coffee markets and project trajectories are represented in this setting. On the one hand, the sustainable coffee market comprises of 30% of the farmers (sellers) who sell parchment (the commodity) to one buyer and on the other, the mainstream market constitutes of 70% of the farmers (sellers) in the district who sell unwashed coffee (the commodity) to multiple levels of local traders. These two markets operate in formal domains, in which market actors, exchange practices, and value chain flows are defined and governed by (inter)national regulations and guidelines. For example, Arabica coffee prices in both markets are influenced by the New York futures price and the foreign exchange rate; and the product qualities of parchment and unwashed coffee are globally defined. However, as we will see, the two markets are linked by informal market practices triggered by the quality standards developed by Buyer 1, which cause farmers to engage in practices that instigated deviations in product trajectories.

- **Disruptions in the chains and creative arrangements**

Highlighted in this case study are the disruptions occurring in the trajectory of sustainable coffee, which take the form of digressions to the mainstream market/coffee trajectory. The digressions are directly related to the divergent market practices involved in both markets, and to the quality of parchment/unwashed coffee produced.

In the sustainable market, farmers engage in crop agronomy practices (e.g. clearing trenches, mulching and pruning trees) and strict wet processing activities, both aimed at producing a high quality crop. The farming and quality assuring practices are monitored by Buyer 1. Conversely, in mainstream market, product quality is not that important and is not taken into account during transactions. For example, only ripe cherries are harvested and sorted (to removed spoiled cherries) for processing into washed coffee. Disruptions emerge in the sustainable coffee trajectory at two stages: when farmers produce floats, and when farmers fail to meet the quality requirements of Buyer 1 as shown in Figure 4 below.
Farmers in the sustainable market selectively harvest only ripe cherries, which they sort (to remove spoiled cherries or floats) so that only quality cherries can be processed into parchment. The mainstream farmers on the other hand harvest all cherries regardless of whether they are ripe, and are not bothered about sorting spoiled cherries. The sustainable farmers sell floats to the traders, disrupting the market, and establishing connections in the competing mainstream market. This connection is inevitable, as the traders are the only buyers available for this product.

The second disruption in the trajectory of sustainable coffee appears at the point of exchange, when the final product – parchment – is subjected to quality tests by Buyer 1. The buyer rejects parchment that is cracked, smelly or discoloured. To save their production, the farmers associated with him, choose to sell the rejected parchment to local traders. In this case, the connection between the two markets is avoidable in the future, as farmers can learn from their mistakes and produce coffee that meets the buyer’s quality demands.

Another form of disruption relates to the instability of trading agreements due to producers captured by debt arrangements with local traders. The coffee transactions in the sustainable market only occur during the main (August – December) and fly crop (March - May) harvest seasons. This creates an anomaly for the farmers, as they will not earn income from coffee during the off-season. On the other hand, the local traders, who dominate the mainstream market offer mortgage loans to farmers during the off-season; a practice which ties up the farmers’ coffee for at least one season. Consequently, the farmers can only consider producing parchment in the subsequent season after the traders have recovered their loan’s worth. In this instance, the indebted farmers sell unwashed coffee in place of parchment for that season.

As Buyer 1 and local traders compete to sustain/ expand their respective market boundaries, their efforts are disrupted by the sustainable farmers’ concrete practices which enact ongoing connections between the two markets. In the sustainable coffee market, these exchanges are not accounted for and, hence, are enacting in the informal domain. In fact, neither the farmers nor the buyer formally capture the sale of floats or rejected parchment in their transaction records.
To sum up: In the coffee case, a combination of formal and informal market practices by sustainable farmers unfolds. Buyer 1 and local traders support the switch from the sustainable market to the mainstream market to create an unstable space in which (near-)parchment coffee (in the form of floats and rejected parchment) is requalified as unwashed coffee. The boundaries between the formal and informal market are blurry in this overlapping market, owing to: 1/ the unstable nature of the product and actors involved, and 2/ the farmer-buyer association in the sustainable coffee market. The product begins its journey in the sustainable coffee trajectory as parchment-in-the-making (see Figure 1). Once transformed into unwashed coffee (as floats and as rejected parchment), the product follows a competing trajectory. This case illustrates how a deviation mechanism unfolds. Market practices considered as informal in the sustainable coffee market are translated into formal market practices in the mainstream market. In so doing, the market created is simultaneously informal (as perceived by sustainable market actors) and formal (as perceived by mainstream market buyers). Hence, an alternative market is created, which exhibits both formal and informal characteristics, and engenders transformations in the qualities of product and in the agency of actors.

Discussion

Our cases demonstrate that the achievement of a new logistic capitalism, based on technological zones (Barry, 2007) powerful integration forces and technical infrastructures, requires articulation processes with other forms of economic organization and marketization. We describe three main forms of boundary work articulating formality and informality along transactional chains: conversion, combination and deviation. These boundary works maintain the circulation of goods across long and short distances, ensure their successive metamorphoses, brings them new properties, sorts them out through experience qualifications and valuation reassessments and finally overcomes many disruptions along the trajectories that transform work and goods into suitable commodities.

A first issue, emerging from the juxtaposition of our cases, is related to the logistical issues at the first or last miles in these rural areas and among them the uncertainties about the quantities that can be supplied because of the production disturbances, of small quantities to be collected in dispersed and remote areas, transportation disruption, damaged roads, irregular cash flows, the uneven reliability of partners and so on. The threat of disruptions and leakages is everywhere and the first challenge is to organize the flow of goods and money. Agencing the circulation of goods and money is still a key issue in these different environments of markets. But more than elsewhere, in these contexts where the control of the logistic chains is weak, where the production is poorly standardized, markets are a matter of very trivial issues such as gathering to obtain enough quantities, getting enough cash, etc. So-called quality and price issues that are much analysed in market studies depends on the way people manage these first concerns: if you can play with stock, if you need to quickly pass commodities as you don’t have any means for conservation, etc. In the Saree Case, the slowness of handmade production has fostered a short-circuit organization to reduce time to market entry. In the pepper market, a complex gathering organization is deployed to optimize transportation costs and meet the exporters' demand.

A second findings concerns the local intermediaries who appears in all the cases as key actors to maintain a regular supply of the market. Scorned in so many grey and academic literature (especially inclusive markets and BOP literature) as the "bad guys" to get around, because of their unscrupulous practices, they represent central nodes at the interface between informal local circuits and formal global chains. Through mundane practices as picking, gathering, forming batching but also financing arrangements, translations operations and value transfers they articulate different calculative spaces and allow changes of scale in these hybrid supply chains. They are those who provide the boundary work thanks to technical skills and quality recognition, but also trust building, and strong roots in the local
people’s economy. In many cases, they not only span geographical vacuums but also temporal ones. The temporality of the formal market is often disconnected with that of the popular economy, constantly affected by cash-flow matters. Finally, the intermediaries not only connect the routes that material products take, but social networks are also enrolled in the process. The achievement of these hybrid global/ local chains remains based on trust building between chosen and regular partners.

Thirdly, in juxtapositioning our cases, we uncover the singular role of standards and norms in formal/informal boundary work. In many academic works in market studies (Brooks, 1995), standards appear as a way to institute borders, to reduce the number of competitors, to eliminate some of them (Reinecke, Manning, Von Hagen, 2012). Struggles in the defense and the institutionalization of standards or labels can be read as market struggles (Kjellberg and Helgesson, 2006). In the cases we examine, standards and qualification instruments permit circulation and conversion processes. In the used car batteries market, lead plates from European brands are recognized as a quality guarantee. If intermediaries are reluctant to pay taxes for their pepper transactions, they are progressively converted and convined to the normalization requirements of exportation especially the traceability tools. Standardization starts to transform into a formal market e.g. by qualifying products and rendering them tradeable, and by capturing records captured in local, regional and international markets. In the coffee case, standards of the sustainable market define a switching threshold from one market to another. In a way, along the hybrid global chains we examine, standards foster transitions and flows between formal and informal worlds.

As a conclusion, we propose to come back to the discussion on social, political nor economical formal/informal linkages effects. Of course, they vary according to the context but also, we believe, to the forms of boundary work. In her work about political transition in the East European countries after the collapse of Berlin wall, Gryzmla-Busse’s (2010) identifies three main influences of informal sector on the building of formal institutions: replacement, underminement and reinforcement. These three influences can be read in our cases.

The second hand car batteries case depicts a replacement mechanism in which the informal market operates in lieu of failings in the formal sector; the second-hand car batteries market emerged to substitute public energy provision in the formal sector. The market is organized into multiple trajectories, with organized logistical market rules govern their practices. This informal sector caters for a population that would otherwise not access energy products.

On the other hand, Malagasy wild pepper and Saree cases exhibit support mechanisms. The support mechanism depicts informal actors enrolling actors into a value chain that connects local, regional and international markets. We could say the informal market completes the whole; it fills a gap in the market by enrolling upstream actors who supply wild pepper to intermediaries. The Saree case study depicts a support mechanism, in which multiple informal markets and product trajectories are enacted. Firstly, driven by a social enterprise, the new market is created to fill a gap in the formal market (hence, its complementarity to the formal market) to promote India’s artisanal heritage; provide employment to families, and especially to females. Secondly, the value chain connects informal market actors (weavers) to the Bunkaari retail stores in the formal market. With Bunkaari as the intermediary, support in the form of training and assured demand for products flows from formal to informal market actors.

Finally, the coffee market describes a competition situation that could to some extend lead to an undermining of the effort to build a fair and sustainable trade. The markets pressure associated to the quantities available of parchment, in a context of competition where one market offers a trustworthy and historical support through financing arrangements and the guarantee to buy the unsold coffee, could suck the flow for the marginal fair trade.

Theses cases provide a contrasted view of informality and its role in the context of globalization. From a political perspective, two aspects are suggested. The first concerns the role of states and other local/official regulation channels. In most of the cases, these actors were practically missing as forms
of control, regulation or rebalancing mechanisms; whereas international institutions and actors produce discourses and practices that shape the expansion of hybrid global chains. The second aspect refers to how informality is often chosen to be depicted as a source of economic disorder (corruption, market failure) or on occasion a poverty alleviation response. In contrast, our cases do not demonstrate that end producers or users are so equitably integrated in a value capture process, as we observe a new form of logistical capitalism, that is based on hybrid chains that are more reminiscent of political economy within historic markets.

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