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GOVERNING THE
INFORMAL FOOD SECTOR
IN CITIES OF THE
GLOBAL SOUTH

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Abstract

The role of the informal food sector in the urban food system cannot be appreciated or understood without the compilation and analysis of systematic and representative data on the activities of informal enterprises across a city and along food supply chains outside it. At present, there are significant gaps in the knowledge base about the character, operation, and roles of the informal food sector; a pre-requisite for sound and supportive governance. This paper presents evidence on the relative importance of the informal food sector and discusses various methodologies for improving the knowledge base. It identifies the challenges and opportunities facing individuals and enterprises operating in the sector as well as the challenges posed by informality more generally. The paper also examines the issue of informal sector governance, including policy prescriptions that have followed from different understandings of informality, and discusses various existing policies and possible interventions. We argue that maximizing the potential benefits of the informal food sector requires well designed institutional and policy frameworks, an appropriate enabling environment, and effective policies and interventions. The final section identifies priority areas for future research.

Keywords

informal food sector, urban food system, food supply chains, markets, Global South

This is the 30th discussion paper in a series published by the Hungry Cities Partnership (HCP), an international research project examining food security and inclusive growth in cities in the Global South. The five-year collaborative project aims to understand how cities in the Global South will manage the food security challenges arising from rapid urbanization and the transformation of urban food systems. The Partnership is funded by the Social Sciences and Humanities Research Council of Canada (SSHRC) and the International Development Research Centre (IDRC) through the International Partnerships for Sustainable Societies (IPaSS) Program. Additional support for this paper was provided by the Queen Elizabeth Diamond Jubilee Advanced Scholars Program.

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Introduction

In cities of the Global South, the informal food sector is both a sub-division of the more general informal economy – identifiable primarily by the food-related activities of participants – and plays a critical role in the functioning of the urban food system as a whole. Therefore, it can be looked at from a micro-perspective that focuses on the motivations, activities, interactions, and livelihoods of the participants and a macro-perspective that focuses on understanding the operation and importance of the sector within the urban food system. Both perspectives are necessary for a better understanding of the sector and for devising appropriate policy responses. For example, it is impossible to understand the role of the informal food sector in the urban food system without the compilation and analysis of systematic and representative data on the activities of informal enterprises across a city and along food supply chains outside it. Similarly, the urban food system is a necessary part of the operating environment of informal enterprises, both enabling and constraining their business activities.

Another, more indirect, perspective seeks to understand the role of the informal sector and its place within urban food systems from the perspective of the individuals and households that patronize it. This perspective is more aligned to the long-standing emphasis on rural household food security and seeks to adapt its approach to the urban context, showing how the informal food sector mitigates household and community food insecurity in its various dimensions – availability, access, utilization, stability, and safety. All three perspectives have implications for the way in which the knowledge base, necessary for the good governance of the informal food sector, is conceptualized and prioritized.

Isolation of the urban informal food sector for analysis is, in some ways, an artificial exercise since it is a component and product of broader processes

of informality that are an increasing feature of rapid urbanization in cities of the South. Thus, discussions of the governance of the informal food sector are also, of necessity, discussions about policy responses to the informal sector writ large. Most policy responses to the growth of informality are not tailored to the specifics of the food sector, but affect it nonetheless. Governance of the informal food sector per se tends to be a “missing link” in policy debates (Skinner and Haysom 2017). However, the relative dearth of policies relating specifically to the informal food sector does not mean that it is therefore ungoverned. On the contrary, it is regularly affected by policies (sometimes heavy-handed and even repressive in nature) targeted at the informal sector in general.

At present, there are significant gaps in the knowledge base about the character, operation, and roles of the informal food sector, a prerequisite for sound and supportive governance. This paper presents evidence on the relative importance of the informal food sector and discusses various methodologies for improving the knowledge base. This is followed by a review of the state of knowledge concerning the relationship between the informal food sector, food security, inclusive growth, and poverty reduction. This section also identifies the challenges facing individuals and enterprises operating in the sector as well as the challenges posed by informality more generally. The paper then examines the issue of informal sector governance, including policy prescriptions that have followed from different understandings of informality, and discusses various existing policies and possible interventions. It makes the argument that maximizing the potential benefits of the informal food sector requires well designed institutional and policy frameworks, an appropriate enabling environment and effective policies and interventions. The final section of the paper highlights the inadequate knowledge base that is hampering good governance of the informal food sector and identifies priority areas for future research.

The Informal Food Sector

Informal economic activity is a global phenomenon and a central aspect of social and economic life in rapidly growing urban areas in the Global South (Parnell and Oldfield 2016, Pieterse and Parnell 2015). Despite its ubiquitous presence, accurate statistical measurement of the informal sector, and the informal food sector in particular, remains a challenge. There are obvious reasons for this: (a) the lack of registration that is a defining feature of informality precludes comprehensive official record keeping; (b) states often lack the will or the means to gather information on informality; and (c) individuals and enterprises in the informal sector are often reluctant to offer insights into their activities due to the quasi-legal nature of their activities and/or experiences of state repression. However, there are strategies that allow for relatively accurate estimates of the scope and scale of informality, including household and labour market surveys that capture forms of income-generation and employment, and indirect estimates based on statistics for the demand for currency, electricity usage and labour market trends (Alderslade et al 2006).

The ILO maintains an extensive database on informal employment in 45 countries and territories (ILO 2018). Also, WIEGO provides extensive regional estimates, offering a comparative picture of informal employment globally (Vanek et al 2014). As Table 1 shows, the proportion of informal employment within and outside the informal sector (as a proportion of total non-agricultural employment) varies from 50% in Latin America, to 67%

in Sub-Saharan Africa and the Caribbean, to 84% in South Asia. Regional differences are less pronounced for the proportion of informal employees in wage employment versus self-employment, although the latter figure is significantly higher in Sub-Saharan Africa (at 67%). Figure 1 shows the variation in levels of informal employment in different countries across the South.

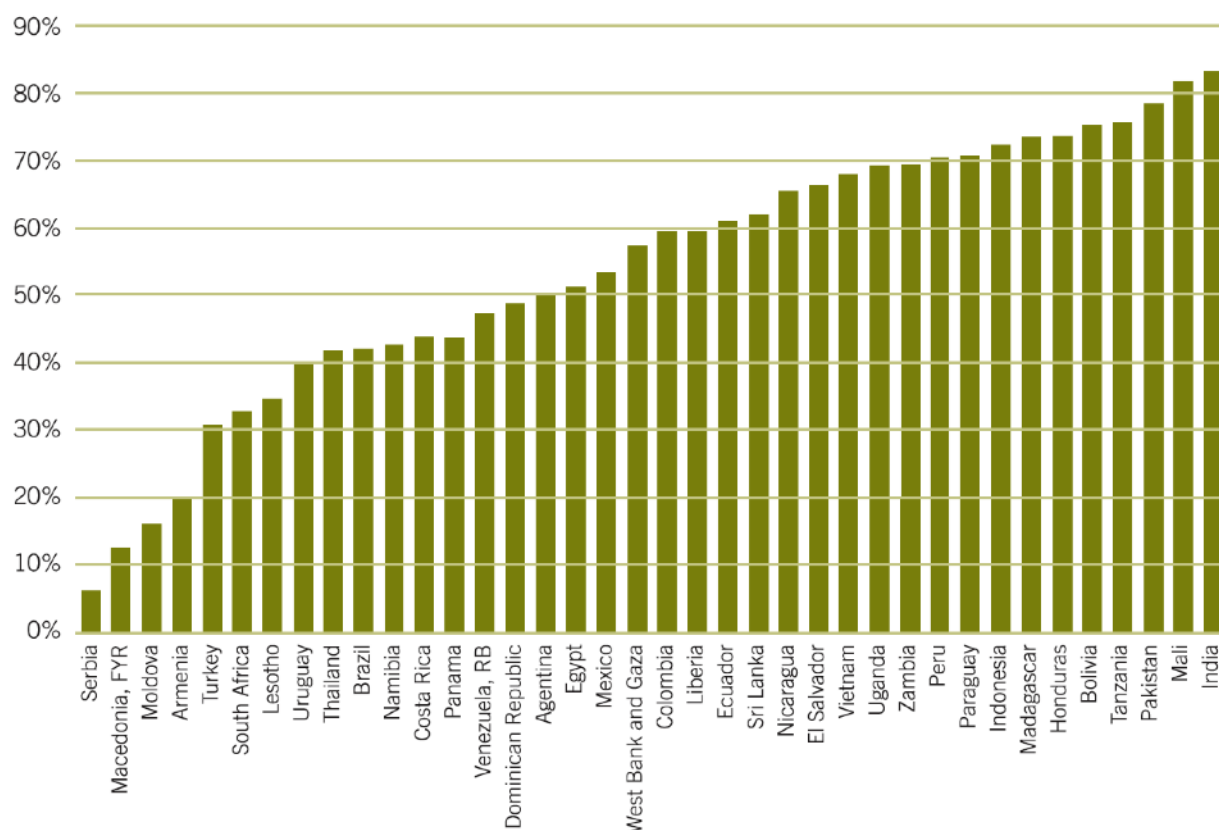
Neither the ILO nor WIEGO provide a detailed sectoral breakdown of informal employment, so it is not possible to determine from their data the size and relative importance of the informal food sector at the regional and national level. This is a significant data gap, given that the food sector plays a major role in the informal economy of many cities and informal economic activity in turn plays a pivotal role in urban food systems. Further, since the urban food system extends beyond retail to include food procurement, aggregation, transportation, processing, and preparation prior to sale, data on the types of enterprise, and their inter-relationships, at different points in food supply chains is required. Finally, data collection on the informal food sector needs to take account of the complexity and variety of types of enterprise involved. The first step is the construction of a cross-national comparative typology of informal food enterprise. Figure 2, based on the food system in Nanjing, China, provides a model starting point for the development of a more general informal food enterprise typology situated within the urban food system as a whole.

Various other approaches are available to build the knowledge base on the character, role, and

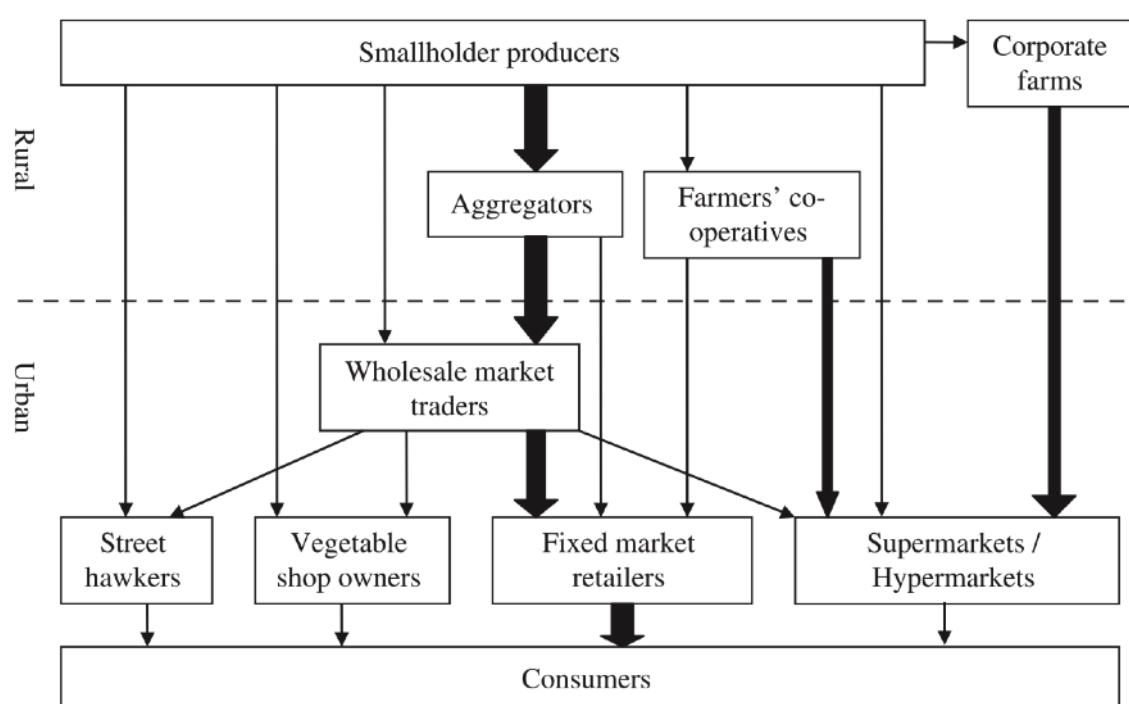
TABLE 1: Informal Employment by Region

	Employment in informal sector (as % of total employment)			Informal employment outside informal sector (as % of total employment)			Informal wage employment (as % of informal employment)			Informal self-employment (as % of informal employment)		
	M*	W	T	M	W	T	M	W	T	M	W	T
LAC**	32	36	34	19	14	16	49	48	48	51	52	52
SSA	59	49	53	11	15	14	24	42	33	76	58	67
SA	64	70	69	21	13	15	42	49	47	58	51	53
ESEA	56	59	57	17	11	14	39	56	49	61	44	51

* M: Men, W: Women, T: Total. ** LAC: Latin America and the Caribbean, SSA: Sub-Saharan Africa; SA: South Asia, ESEA: East and Southeast Asia excluding China. Source: WIEGO

FIGURE 1: Informal Employment as a Proportion of Total Non-Agricultural Employment in Selected Countries

Source: Vanek et al (2014: 9)

FIGURE 2: Urban Food System of Nanjing, China

Source: Hungry Cities Partnership

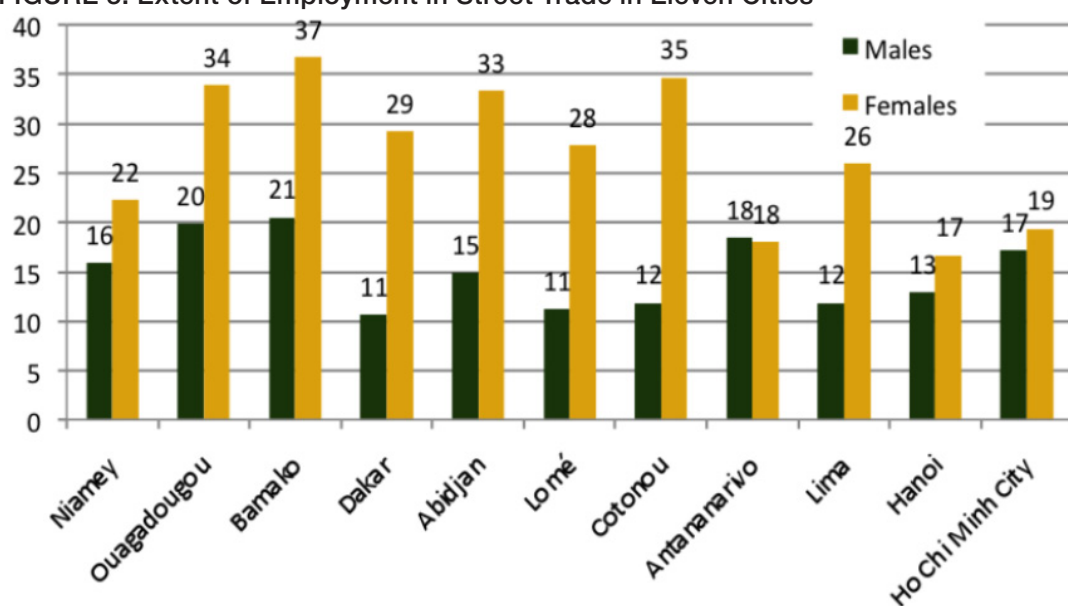
importance of the informal food sector. At the city scale these include (a) 1-2-3 sample surveys; (b) informal food enterprise mapping; (c) household food sourcing surveys; and (d) informal food vendor surveys. The first approach has been used by WIEGO to collect household data on formal and informal employment in 11 cities and shows the proportion of the city workforce engaged in two main activities with a strong, but not exclusive, food component: market trade and street trade (Herrera et al 2012). Figure 3 shows the WIEGO results for street trade and demonstrates high levels of involvement, considerable inter-city variation, and a consistent gender pattern with a significantly greater proportion of women working in the sector.

The second approach – informal enterprise mapping – has become more feasible and cost-effective with the advent of GIS tools. The African Food Security Urban Network (AFSUN) and the Sustainable Livelihoods Foundation (SLF) have piloted the spatial mapping of informal retail enterprises in low-income neighbourhoods in South Africa (Battersby et al 2016, Charman et al 2017). SLF maps all informal retail enterprises within a given neighbourhood (Figure 4), while AFSUN has focused on food-related retail (Figure 5). Mapping provides insights into the variety of food enterprises, their spatial distribution (including clustering on major arteries and transport hubs), and a population from

which to sample for representative vendor surveys.

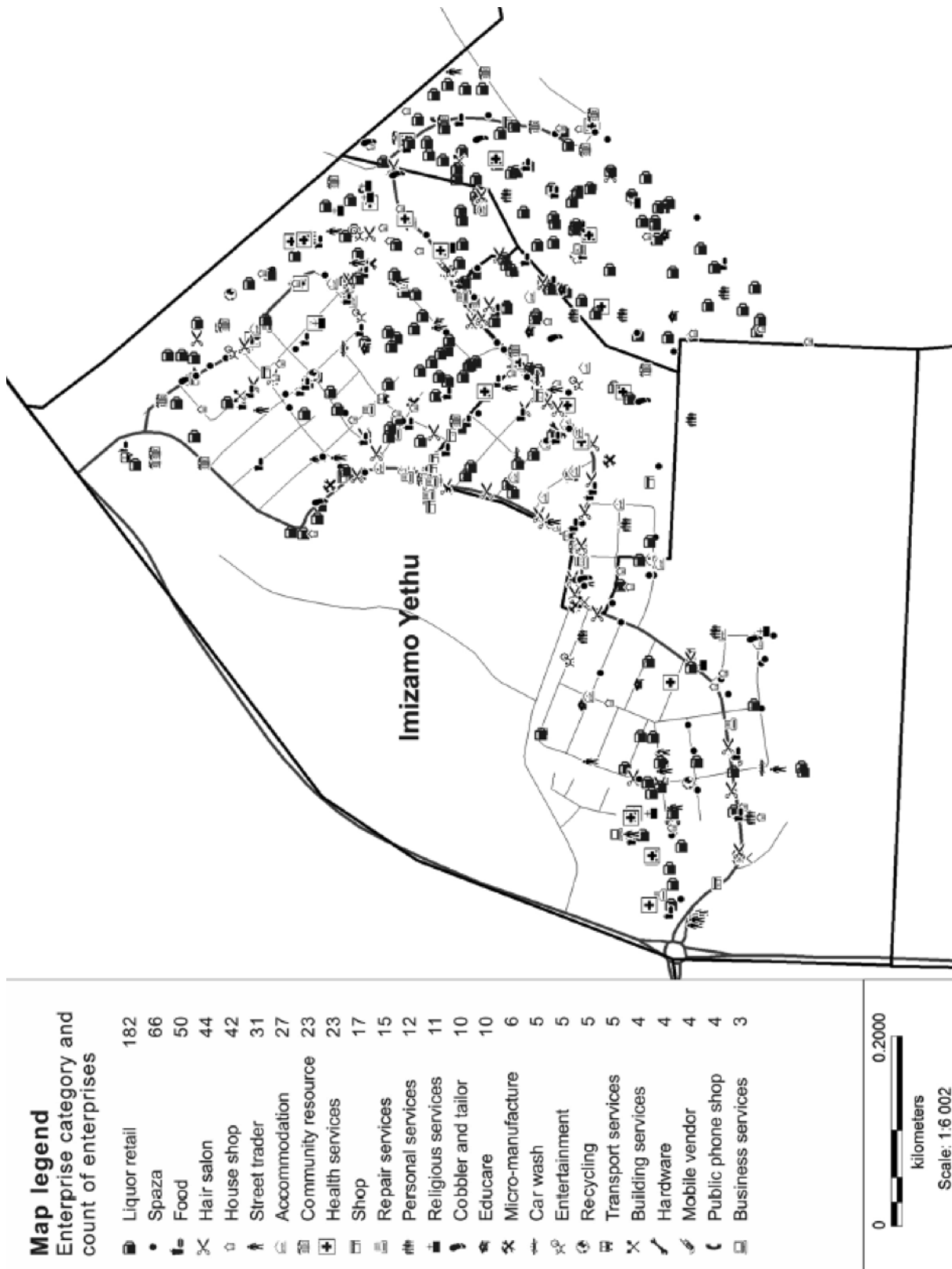
A third approach developed by AFSUN and the Hungry Cities Partnership focuses on the food sourcing behaviour of households and their patronage of informal food outlets (Crush et al 2014, Crush and McCordic 2017). For example, HCP data shows the proportion of households in each of the partner cities that patronize formal and informal food outlets (Table 2). Street vendors are patronized by as few as 16% of households in Mexico City, Mexico, and as many as 62% in Bangalore, India. Patronage of small informal shops also varies considerably but they are used by over 60% of households in four cities (Cape Town, South Africa; Nairobi, Kenya; Kingston, Jamaica; and Bangalore). Markets (both formal and informal) are patronized by over 75%. Household food sourcing surveys also provide insights into the dependence of poor households on the informal food sector as well as the fact that the sector is patronized with great frequency (in comparison to most formal sector food outlets). Figure 5, for example, shows that while virtually all households in Cape Town patronize supermarkets for some of their food, households in the lowest income tercile are the major patrons of informal vendors (such as street sellers and spazas) and source food from these outlets on an almost daily basis. Similar patterns have been observed in other HCP cities.

FIGURE 3: Extent of Employment in Street Trade in Eleven Cities



Source: Herrera et al (2012)

FIGURE 4: Spatial Distribution of the Informal Sector, Imizamo Yethu, Cape Town



Source: Sustainable Livelihoods Foundation

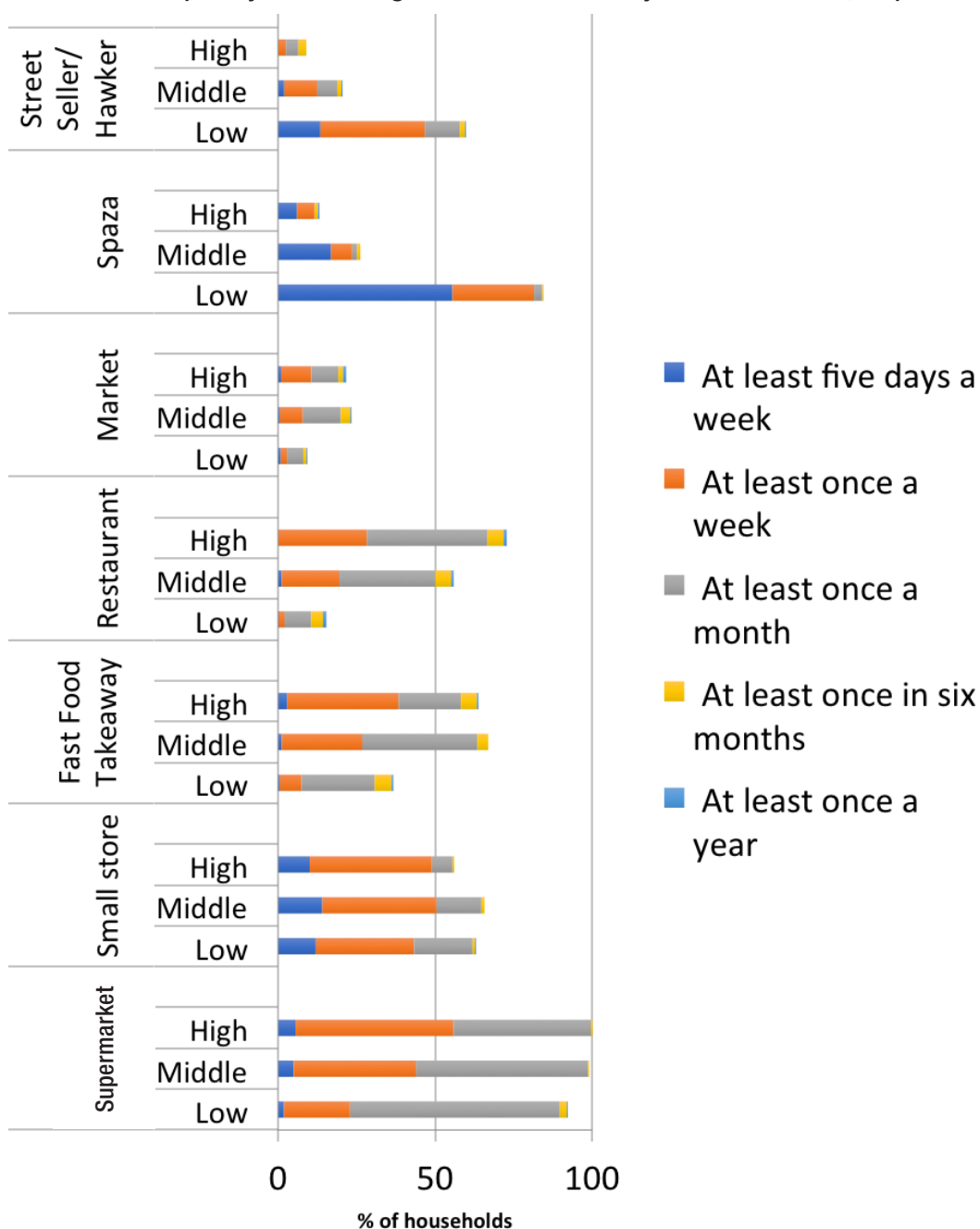
FIGURE 5: Spatial Distribution of Informal Food Retail Outlets, Philippi, Cape Town

Source: AFSUN

TABLE 2: Patronage of Different Food Outlets in HCP Cities

	Africa				LAC		Asia	
	Cape Town (% of households)	Maputo (% of households)	Nairobi (% of households)	Windhoek (% of households)	Mexico City (% of households)	Kingston (% of households)	Bangalore (% of households)	Nanjing (% of households)
Formal								
Supermarkets	94.1	34.0	78.7	96.2	56.8	65.8	18.1	88.3
Small shops/outlets	62.8	75.8	82.2	18.5	68.4	74.6	29.5	31.0
Fast food outlets	45.8	2.9	14.4	15.4	4.5	44.6	2.5	16.0
Restaurants	28.0	3.8	22.1	5.8	6.8	34.9	58.2	44.7
Informal								
Street vendors	47.9	28.5	45.1	29.1	16.3	30.1	61.5	24.5
Small shops	67.1	1.4	68.9	19.4	7.4	65.8	62.3	12.3
Mix of formal and informal vendors								
Markets	13.1	91.9	51.2	49.6	86.4	76.5	15.8	92.7
Notes: Some markets are "formal" in the sense that vendors operate in officially designated spaces. In Nairobi, these are called "designated city council/county markets" and in Windhoek "open markets." In Nanjing and other Asian cities, the designated markets are termed "wet markets." In Mexico City, markets include large wholesale markets, periodic markets (tainguis) and local neighbourhood markets. Adjacent to these official "formal" markets in cities such as Maputo, Nairobi, Windhoek, and Bangalore are unofficial "informal" markets. In this table, "markets" therefore refers to a mixture of formal and informal food vendors, depending on the city. Small informal shops go by different names in different cities – e.g. spazas in South African cities, tuck shops in Nairobi and Windhoek, and kiosks in Bangalore.								

FIGURE 6: Frequency of Patronage of Food Sources by Income Terciles, Cape Town



Source: Hungry Cities Partnership

Some notes of caution are warranted about the existing knowledge base. In particular, the inherent limitations in current empirical evidence on informality raise significant questions about the validity, reliability, and generalizability of existing causal arguments. Statistical analyses will necessarily offer flawed and incomplete glimpses into complex and

varied phenomena even while providing important insights. Similarly, applying explanations derived from single segments of the informal sector to explain informality more broadly should be resisted, as should extrapolating lessons from specific regions to explain informality in others.

Informal Food Sector Opportunities and Challenges

Existing literature on the informal food sector, and informality more generally, presents a variety of opportunities and challenges for governance and development.

Opportunities

If properly managed, the informal food sector has the potential to play a key role in the promotion of food security, inclusive growth, and poverty reduction. Most obviously, it can play a vital role in urban food security by providing consumers (particularly the urban poor) with an accessible, affordable, and reliable source of food, filling large gaps in the market left by formal food retailers. As cities in the Global South continue to experience rapid growth, demand on formal food infrastructure will increase dramatically. The informal food sector can offset some of these pressures and ensure that rising demand does not result in major shortages or price increases, both of which would disproportionately impact marginalized groups. In doing so, it can complement rather than compete with the formal food sector in the promotion of urban food security.

The informal food sector benefits not only those who rely on it as a source of food, but also those who rely on it as a source of income. Where formal jobs are either unavailable or undesirable, the informal sector, according to its proponents, offers entrepreneurship and employment opportunities that would otherwise not exist, and thus provides not only necessary livelihood support, but also access to skills, experience, and certain forms of social protection and mobility (Bromley 2000). There is also evidence that the informal sector can facilitate structural transformation by allowing individuals who would otherwise engage in low-productivity agriculture to participate in higher-productivity economic activities (Fox and Pimhidzai 2011), and that informal sector growth can reduce inequality (Bhattacharya 2011).

The internal heterogeneity of the informal sector means that growth potential can vary dramatically across enterprises. While some enterprises and individuals focus on meeting basic needs, others are high performers and, still more importantly, have high potential, but are subject to growth constraints stemming from both their internal structure and their broader macroeconomic environment (Grimm et al 2012). Despite such constraints, participation in the informal sector can have clear benefits. In Ethiopia, for example, informal enterprises have a significantly higher annual return on capital (ranging from 52% to 140%) than formal firms (at 15% to 21%) (Siba 2015). Williams et al (2017) find that across 127 countries, registered firms that began and remained unregistered for extended periods of time have significantly higher sales, employment, and productivity growth rates than their competitors.

The benefits of the informal food sector are not limited to those who directly participate in it. Contrary to popular perceptions, the fact that many individuals and enterprises operating informally pay a wide variety of taxes and fees means that the informal sector can provide the government with essential revenue, even if compliance is imperfect. Street trade and urban markets can also revitalize urban areas for both residents and visitors, and have a positive impact on tourism, often a vital source of income for cities in the Global South. Several of the benefits of informal economic activity are less tangible. Insofar as informal entrepreneurship or employment is the result of free rational decision-making processes, the right of individuals to choose their occupation and to design, within reason, their income-generating activities as they see fit should be defended. This is particularly true if informality is understood as a popular alternative to an unjust or fundamentally flawed formal economic system that is upheld by a predatory or mismanaged state (Bromley 2000).

A particularly important question is whether the informal sector is pro-cyclical (expanding and contracting in line with formal sector fluctuations) or counter-cyclical (tempering the effects of formal economic shocks by absorbing displaced labour and

serving as a source of the supply of and demand for goods). Evidence exists to support both positions (Arvin-Rad et al 2010, Fiess et al 2010, Loayza and Rigolini 2011). The extensive linkages between the informal and formal sectors make it highly unlikely that the former can remain unaffected by crises in the latter. For example, if supply chains are disrupted, customers lose wages, credit becomes more difficult to obtain, and currency values fluctuate. Nevertheless, a decline in formal employment can be at least partially offset by the ability of formal sector workers to engage in informal economic activities, even if general macroeconomic conditions reduce their income-generating potential.

If these opportunities are to be realized, designing effective policies and institutions is crucial. An appropriate enabling environment that allows the informal food sector to thrive and actively contribute to urban food security, inclusive growth and poverty reduction requires the redesign of political institutions as well as the legal, regulatory and taxation systems that shape informality. At present, central and local state views of informal economic activity are more often ambiguous and inconsistent, leading to various forms of support, repression, and neglect that can fluctuate dramatically over time. This reflects broader inconsistencies in views among commentators, academics, and international organizations about the social, economic, and normative value of informality, and creates significant problems for informal food sector governance.

Challenges

Informal economic activity also poses a broader set of social and economic challenges. A common criticism is that informal economies can be less efficient and productive than their formal counterparts (La Porta and Shleifer 2014). There are several reasons why this might be the case: the greater misallocation of capital within and between informal enterprises, the small size of informal enterprises means they lack economies of scale, and the limited means informal enterprises have for enforcing contracts and property rights. The supposed detrimental impact of the informal sector on the informal

economy is also a common concern. de Soto (1989), for example, highlights the negative effects of widespread informality, including reduced levels of productivity and investment, higher prices for services, minimal technological development, and difficulties collecting tax revenues and constructing macroeconomic policy. Proprietors of formal firms are often vocal critics of informal economic activity due to the perception that informal enterprises are a source of unfair competition that benefit from superior accessibility, lower operating costs, and the evasion of taxes and fees. Distinguin et al (2016) also suggest that in countries with a weak rule of law and high levels of corruption and state bureaucracy, formal firms face competition from the informal sector because of greater credit constraints, a problem that is particularly acute for micro and small firms.

The challenges that informality poses are not merely economic. Dobson and Ramlogan-Dobson (2012) find that the effect of corruption on inequality declines as the size of the informal sector increases, and that a reduction of corruption will not reduce inequality when the informal sector constitutes slightly more than 20% of GDP. The informal sector can also limit the enforcement of human rights protections (Miller 2007) and labour regulations that seek to provide minimal working conditions. Individuals engaging in informal economic activity are particularly vulnerable to abuse by authorities in the form of demands for bribes, harassment, threats, fines, the confiscation of goods, physical violence, and arrests. The fact that the state is often the source of these abuses highlights the importance of governance reforms.

Informal trade on city streets is a common subject of criticism (Bromley 2000). For its detractors, it can increase urban congestion, impede traffic flows and pedestrians, block exits from major city buildings, and even create an environment that is conducive to low-level crime, making cities less functional, clean, attractive, liveable, and business and investment friendly. A lack of regulation means that there is no oversight of the potential health risks of the food and drinks sold by vendors and little accountability for product quality. Such concerns

can inform repressive enforcement measures that pose further challenges to the viability of informal economic activities.

Perspectives on Informality

Issues of governance are at the core of understanding the emergence, evolution, and dynamics of informal economic activity. Political institutions, laws, regulations, taxation, targeted policies, and interventions all define the environment in which informal economic activity occurs and can have a dramatic impact on the ability of the informal food sector to both contribute to urban food security and provide livelihood opportunities. Informal food sector governance must first be understood in the context of competing explanations for the reasons for its existence. Dualist, structuralist, and neo-liberal accounts of why informal economic activity exists each entail their own explicit or implicit prescriptions for institutional and policy design.

Dualist interpretations of informality view the informal sector as separate from its formal counterpart and a source of marginal livelihood strategies for those who lack formal employment (Hart 1973, ILO 1972). In this view, informality is thus primarily the result of labour market failure when high labour supply (driven by rapid urbanization and population growth) coexists with limited demand for low-skilled labour. The lack of opportunities for formal employment force jobseekers into informal income-generating activities. Trading on the streets is particularly attractive for those who lack formal employment due to its low entry costs, minimal capital and skill requirements, and the access it provides to potential customers. Dualist views of informality also assume that economic development will entail the expansion of formal labour markets to meet increasing production demands, thus absorbing excess labour capacity and ultimately reducing the size of the informal sector (Habib-Mintz 2009). This, however, has largely failed to occur. Indeed, the informal sector has proven to be remarkably persistent – and has even grown – in response to developmental pressures across the

Global South, suggesting that informality may be a more permanent feature of rapidly changing urban landscapes.

Structuralist approaches to informality view the relationship between the formal and informal sector as one of subordination and exploitation. The informal sector serves as an essential source of low-cost goods and services for formal firms, thereby allowing them to reduce expenditures on labour, production, and distribution as a means of maximizing profits. Affordable goods and services similarly benefit employees in formal firms by increasing the purchasing power of their fixed incomes. For structuralists, individuals operating in the informal sector play a pivotal role in the formal economy by providing the low-cost inputs that allow it to function. Their economic activities, rather than being marginal and concerned only with basic livelihood needs, therefore play a crucial role in development (Moser 1978, Portes et al 1989, Portes and Schauffler 1993). Such an interpretation addresses the empirical observation that economic development and formal sector expansion do not necessarily result in informal sector decline. It assumes that extensive linkages exist between formal and informal firms to allow the former to benefit from the exploitation of the latter, and that these linkages are a fundamental feature of private sector development processes. While structuralist analyses of informality were influential until the late 1990s, they have since been supplanted by neo-liberal accounts that emphasize market dynamics and institutional design. Still, the emphasis that structuralism places on forms of marginalization and exploitation in the informal sector continue to influence views on informality (Kabeer et al 2013, Meagher and Lindell 2013, Rizzo 2017).

Neoliberal accounts view informality not as a manifestation of exploitation, but of entrepreneurial dynamism in response to distortionary state policies and unrepresentative state institutions. Like the structuralist analysis they explicitly or implicitly reject, neoliberal interpretations provide an explanation for the persistence of informality in development, explaining the emergence and growth of

the informal sector as the aggregate result of individual rational choice. This view was popularized by de Soto (1989) in a seminal study of informal economic activity in Peru that recast the informal sector as a site of popular market activity by those who conclude that the costs of formalization imposed by the state exceed the benefits that formality offers. Tripp's (1997) study of economic liberalization in Tanzania further suggested this broad disengagement from the state can have transformative political effects by forcing the state to loosen its economic dominance and adopt reforms in line with popular notions of social justice and economic fairness. According to neoliberal accounts, informal economic activity is therefore a reflection of the agency, creativity, and resilience of the urban poor in response to profound institutional and governance failures. If these failures are appropriately addressed, the informal sector can serve as a source of grassroots entrepreneurialism that can be harnessed to fuel inclusive growth. This focus on institutions has obvious implications for reforming the laws, regulations, and tax systems that govern the informal sector, all of which are explored below.

Several valuable efforts have been made to reconcile these competing views and prescriptions. One important example comes from Perry et al (2007) in a publication for the World Bank that modifies the traditional neoliberal view of informal economic activity by identifying two causes of informality:

- Exit: the phenomenon that “many workers, firms, and families choose their optimal level of engagement with the mandates and institutions of the state, depending on their valuation of the net benefits associated with formality and the state’s enforcement effort and capability”; and
- Exclusion: the processes that prevent workers and firms from accessing state benefits and participating in the modern economy. These include: (a) labour market segmentation; (b) high entry costs; and (c) excessive taxation and regulatory demands.

The twin processes of exit and exclusion take three forms:

- Opportunistic evasion, where certain gains can be made from failing to adhere to state laws;
- Defensive evasion, where firms remain informal due to high formalization costs, repression, and poor governance;
- Passive evasion, where the state is largely irrelevant to a firm’s activities, particularly in comparison to alternative social and economic institutions;

Disaggregating the diverse set of actors that engage in informal economic activity, Perry et al (2007: 21–22) identify the following categories:

- Labourers including (a) those who would prefer but are unable to find formal employment; and (b) those who have left formal employment and engage in entrepreneurial work to be their own bosses, earn a higher income, avoid certain social security payments and – particularly for women – obtain greater flexibility in the balance of household and work obligations;
- Micro-firms, including (a) those with no plans or desire for growth; and (b) those with growth ambitions that are hindered by excessive registration costs; and
- Firms, including (a) those avoiding taxes due to widespread non-compliance or low enforcement; and (b) those that declare only a portion of their employees, sales, and/or wages to avoid costly regulations.

Other studies have examined competing explanations for informal economic activity across a variety of national contexts. In a comparative analysis of 41 countries, for example, Williams (2015a) argues that dualist and structuralist approaches should be combined to explain informality as a result of underdevelopment, small government, and inadequate state intervention to protect workers. A similar argument is made in a related study of 38 countries (Williams 2014), while another study (Williams 2015b) of 33 countries provides evidence for certain aspects of all three approaches, and suggests that informality is also associated with

public sector corruption and certain forms of over-regulation. Adom and Williams (2012) find that for the informal sector in Koforidua, Ghana, dualist explanations have little explanatory value, while structuralist, neoliberal, and what they identify as ‘post-structuralist’ accounts that emphasize social factors, redistribution, resistance, and identity each provide insights into different forms of informal economic activity for different segments of the population.

Such studies allow for the development of a more nuanced view of informality that captures its heterogeneity, its internal complexity, and the diverse livelihoods, motivations, and behaviours it encompasses. In doing so, they usefully move beyond binary perspectives of informality as solely the result of either poverty and exploitation or entrepreneurialism, and acknowledge that those who engage in informal economic activity can have a diverse set of motives for doing so. Informality can be an opportunity for some and a necessity for others (Chen 2012, Günther and Launov 2012, Gurtoo and Williams 2009, Williams and Youssef 2015). Indeed, a given individual or enterprise might be driven by a combination of both voluntary exit and involuntary exclusion (Perry et al 2007).

Approaches to Informal Food Sector Governance

Issues of governance are at the core of understanding the emergence, evolution, and dynamics of informal economic activity. Political institutions, laws, regulation, taxation, targeted policies, and interventions all define the environment in which informal economic activity occurs and can have a dramatic impact on the ability of the informal food sector to both contribute to urban food security and provide livelihood opportunities.

Informal food sector governance must be understood in the context of competing explanations for the causes of informal economic activity. Dualist, structuralist, and neoliberal accounts of why informal economic activity occurs each entail their

own explicit or implicit prescriptions for institutional and policy design. The dualist view that the informal sector will be absorbed into the formal economy as a result of further economic development suggests a focus on maximizing formal employment and output to realign labour market supply and demand. The structuralist view that informality is the result of the systemic exploitation of labour, in contrast, gives primacy to empowering informal workers and providing them with labour protections that will safeguard their rights. The liberal view that informal economic activity is caused by a rational response to the costs of formalization instead leads to the conclusion that incentives should be adjusted to lower the costs and raise the benefits of formality.

These conflicting perspectives define current scholarly and policy approaches to informal food sector governance. While this somewhat complicates coherent analysis, current research and experience nevertheless offers valuable insights.

Political Institutions

The design and function of political institutions has a profound effect on informal sector governance and development. There is growing evidence that democratic processes offer the opportunity for individuals and groups in the informal sector to influence the design and/or implementation of policy by making policymakers directly accountable to voters, suggesting that regular open elections in which candidates must appeal to the urban poor for support can have dramatic livelihood and empowerment effects (Agarwala 2013, Holland 2016, Holland 2017). This does not mean, however, that individuals and firms in the informal sector solely benefit from good governance. In an influential study of street vending in Mexico City, Cross (1998) describes how vendors are able to take advantage of a clientelistic state/party incentive structure and a lack of coherence between the design and implementation of policy to avoid repression and remain on city streets. Beyond the protections it allows street vendors to secure, such a system has few appealing qualities.

Open democratic systems are often absent in states with high levels of informality, where predatory, repressive, negligent, corrupt, or partisan state officials may fail to prioritize effective informal sector governance. Furthermore, recognizing the importance of political institutions raises important questions about the potential implications that institutional crisis and collapse can have for informal economic activity. Meagher (2005, 2006, 2007, 2010), for example, places the decline of state institutions and political capture in the context of economic liberalization to explain why informal economic activities that rely on embedded social networks have failed to contribute to economic development in Africa. More generally, rising authoritarianism and democratic reversals can be seen to pose a major threat to the informal sector by closing the most effective channels that individuals operating in the informal economy have for exercising political influence and securing livelihood protections (Young 2017, 2018).

Laws, Regulation and Taxation

The idea that informality is the result of a rational cost-benefit analysis of formalization by individuals and firms has dominated academic and policy approaches to the informal sector. de Soto (1989), for example, highlights the importance of reducing the costs of formalization and reforming the legal system to provide protections for property rights, contracts, and extracontractual liabilities. Perry et al (2007: 17–19) similarly stress the need to reduce barriers to formalization through regulatory reform, simplify tax laws, facilitate compliance, and improve enforcement. A number of studies provide further evidence linking informal economic activity to the costs imposed on businesses by taxes, regulations, and bureaucracy, emphasizing the potential benefits of both simplifying and reducing the costs of compliance (Djankov et al 2010, Ihrig and Moe 2004, Loayza 1996, Schneider and Enste 2000).

Case study research, in contrast, offers a more complicated picture. A study of formalization efforts in Belo Horizonte, Brazil, for example, found that the

provision of information on formalization processes and a combination of information, free registration, and the use of an accountant had either no or a negative impact on formalization, while inspections raised the likelihood of formalization by 21% to 27% (Henrique de Andrade et al 2013). A program in Indonesia to improve business registration by reducing costs had no effect on informality (Rothenberg et al 2016), and reforms based on the World Bank's Doing Business project have largely excluded and further marginalized vendors in Tanzania (Lyons et al 2014, Lyons and Msoka 2010). Further evidence from similar initiatives across a variety of cities is needed to draw more comprehensive conclusions.

An important but often neglected aspect of taxation and informality is the extent to which paying taxes is seen to be connected to the provision of concrete public benefits. This is particularly relevant as the cost-benefit analysis involved in informal economic activity suggests that compliance should not only be simple and affordable, but also entail clear incentives. The potential benefits of expanding social security programs (Perry et al 2007: 16–17) or tying revenue gained from formalization to informal sector development merit further attention.

Rights

The right to food is guaranteed as an essential component of the right to an adequate standard of living in Article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), a provision that the treaty's 169 parties are legally obligated to enforce. Furthermore, Article 6 of the ICESCR guarantees the right to work, including “the right of everyone to the opportunity to gain his [sic] living by work which he freely chooses or accepts”, and directs states to take steps “to achieve the full realization of this right”, including “technical and vocational guidance and training programs, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic

freedoms to the individual.” (United Nations nd). However, these rights lack meaningful enforcement mechanisms and often remain unrealized.

More concrete and enforceable rights are often provided in national constitutions and legislative acts. Legal rights that protect private property, freedom of association, free speech, and freedom from arbitrary arrest and physical violence can be crucial for those in the informal sector facing repression, abuse, and exploitation at the hands of the state, firms or other individuals. Where these rights are not only codified but respected and upheld by courts, they can provide individuals in the informal sector with a vital means of securing and advancing their livelihood claims, including their right to engage in informal trade. Still, the rights of those in the informal sector remain underdeveloped in both theory and practice, making this a value subject of further research (Brown 2015, 2017, Menses-Reyes et al 2014).

Labour Market Regulation

Two sharply contrasting views exist regarding the regulation of labour markets in the context of widespread informality. The first holds that rigidities and inefficiencies in the labour market caused by excessive regulation leads to informal sector growth. Perry et al (2007: 14-16) identify three ways in which this occurs: (1) high labour costs reduce the total number of formal sector jobs; (2) mandatory labour taxes and contributions, along with the inflexibility of formal employment, increase incentives for workers and firms to choose to avoid the formal labour market; and (3) policies that hinder productivity growth, such as those that make it difficult to hire and fire workers, limit development.

The second view aims to extend labour regulations to cover the informal sector. The problem with protections enforced by governments and unions, from this perspective, is not that they distort the labour market and cause informal economic activity, but instead that they are not adequately applied to protect informal sector workers. Organization is increasingly common in the informal

economy as workers seek to overcome their vulnerability and exert political influence through collective action. These organizations often take the form of vendor associations and informal sector trade unions, and engage in governance activities, collective bargaining, protests, advocacy work, educational efforts, political campaigns, dispute resolution, alliance building, and the provision of concrete benefits ranging from financial support to legal assistance to their members (Kabeer et al 2013, Lindell 2010, Lyon 2003, Peña 1999, 2000). The ILO has strongly encouraged organization in the informal economy. It also maintains that formal sector unions can play a central role in this process by offering informal sector organizations guidance, training, institutional support, and lobbying assistance (Ahn 2007, ILO 2001, 2002a, 2002b).

Tension between formal and informal sector workers, however, undermines both cooperative efforts and the extension of labour market protections. Unions often regard the informal sector as a source of unfair competition that exerts a downward pressure on formal sector wages, and are therefore reluctant to provide informal sector organizations with extensive assistance. Furthermore, competition between traders, ethnic, racial and religious divisions, and selective assistance from the government all impede cooperative action (Sanyal 1991), while associations can be hierarchical, exploitative, or unrepresentative (Meagher 2010: 105-120), complicating organizational efforts. The fact that governments are often either unresponsive or hostile to the demands of informal sector organizations also poses a significant challenge. The obstacles to organization in the informal sector therefore remain significant.

Regulating Street Vending

A defining feature of informal food sector regulation in cities in the Global South is the eviction of street traders and forced relocations to markets. Major efforts to remove vendors from city streets have been documented in Accra, Ghana (Steel et al 2014); Blantyre and Lilongwe, Malawi (Riley 2014, Tonda and Kepe 2016); Bogotá, Colombia

(Donovan 2008); Harare, Zimbabwe (Rogerson 2016), Johannesburg, South Africa (Bénit-Gbaffou 2016); Kampala, Uganda (Young 2017, 2018); Maseru, Lesotho (Setšabi and Leduka 2008); Morelia, Mexico (Barajas and Felipe 2005); Nairobi (Morange 2015); and Quito and Guayaquil, Ecuador (Swanson 2007). Removals can have a dramatic impact on informal sector livelihoods through arrests, fines, the destruction of property, the confiscation of goods, and reduced business opportunities. These measures often have the support of formal businesses due to complaints about 'unfair' competition. When formal businesses cannot eliminate their informal rivals through market competition, they turn to the power of the state (Cross 2000).

Case study evidence suggests that several other approaches to and outcomes for the regulation of street vending are possible. In Kampala, for example, the de-democratization of the city meant that street vendors lost their ability to participate in the formation and implementation of policy (Young 2017). Efforts by the city government to relocate vendors to a permanent market failed due to a combination of high rent costs and few customers (Young 2018). In Morelia, Mexico, in contrast, efforts to remove traders from the city's historic centre involved cooperative problem-solving approaches that led to minimal resistance (Barajas and Felipe 2005). Similarly, in Durban, South Africa, the local government has oscillated between repression, tolerance, and support throughout the city's history (Skinner 2008), and has adopted an official informal economy policy that seeks to promote enterprise development and incorporate the informal sector into urban development plans. These diverging trajectories further highlight the importance of inclusive institutions and cooperation in the design of informal sector regulation. In Kampala, institutional decline and a reliance on coercion have had dramatically detrimental effects. In Durban, at least officially, the informal sector is recognized as an integral part of the urban economy, allowing for concrete gains to be made.

Formalization

A widespread objective of informal food sector governance in the last two decades has been the promotion of formalization. This has gained even greater importance since the official endorsement of formalization by the ILO with the adoption of Recommendation 204 at the International Labour Conference in 2015. The potential benefits of formalization logically follow from eliminating the social and economic costs widespread informality entails. Studying formal and informal firms in Vietnam, for example, Rand and Torm (2012) find that formalization improves incomes, investments, and working conditions. Formalization can also enhance state revenues by improving tax compliance which, some argue, can promote economic growth and good governance (Joshi et al 2014). Leal-Ordóñez (2014) finds that in Mexico, complete tax enforcement would improve labour productivity and output by 19% under perfect competition and 34% under monopolistic competition, by reducing distortions surrounding capital-labour ratios, low productivity, and resource misallocation in the informal sector.

Formalization, however, comes with major risks. If informality is the result of a rational cost-benefit analysis, then adhering to tax and regulatory requirements may prove costly for firms and individuals surviving on minimal profits. For some, informal economic activity offers benefits that formality does not and if these benefits disappear, the impact on the informal sector may be significant (Cross 2000). The low productivity of the sector suggests that enterprises and individuals will have difficulty competing with counterparts in the formal economy (La Porta and Shleifer 2014). If the informal food sector were to be harmed by poorly designed formalization initiatives, its ability to serve as a source of urban food security, inclusive growth, and poverty reduction would be greatly diminished.

Insights from HCP Surveys

HCP evidence has much to contribute to ongoing debates about informal food sector governance. It is particularly revealing about two salient points: why individuals participate in the informal economy and what business challenges they face. HCP is addressing questions of motivation and behaviour through an empirical focus on concepts derived from the literature on motivation for involvement in the informal sector (Adom and Williams 2012,

Callaghan and Venter 2011, Langevang et al 2012). Responses offered by the owners of small food enterprises in Maputo, Mozambique, for example, provide insights into the relative importance of different reasons for entry into the informal food sector (Table 3).

The motivations of business owners in the informal food sector are both multifaceted and variable. Of paramount importance are selection of survivalist factors, including the need for money, the desire to provide one's family with financial support,

TABLE 3: Motivation Among Informal Food Businesses in Maputo, 2016

	Total mean score	Male mean score	Female mean score
Survivalist factors			
I needed more money just to survive	4.2	4.1	4.2
I wanted to give my family greater financial security	3.7	3.7	3.7
I was unemployed and unable to find a job	3.3	3.2	3.3
I wanted to provide employment for members of my family	2.1	2.2	2.0
I had a job, but it did not pay enough	1.8	1.9	1.8
I had a job, but it did not suit my qualifications and experience	1.4	1.5	1.4
Entrepreneurial orientation			
I have always wanted to run my own business	3.6	3.7	3.6
I have the right personality to run my own business	3.4	3.6	3.4
I wanted more control over my own time/to be my own boss	3.3	3.4	3.2
I like to learn new skills	3.2	3.5	3.1
I wanted to do something new and challenging	3.1	3.3	3.1
I like to challenge myself	3.1	3.4	3.0
I enjoy taking risks	2.9	3.1	2.9
I wanted to compete with others and be the best	1.9	1.9	1.9
Building social capital			
I wanted to contribute to the development of this country	2.8	3.1	2.8
I wanted to make more money to send to my family at home	2.5	2.7	2.4
I wanted to increase my status in the community	2.2	2.3	2.2
My family has always been involved in business	2.2	2.3	2.2
Help in starting my business was available from other people	1.9	1.9	1.9
I wanted to provide a service/product to consumers in my neighbourhood	1.9	2.0	1.8
I wanted to provide employment for people from my home	1.7	1.9	1.6
I wanted to provide employment for other people	1.6	1.9	1.6
I decided to go into business in partnership with others	1.7	1.8	1.6
I wanted to provide a service/product to consumers in other parts of this city	1.7	1.9	1.7
Note: All responses are on a 5-point Likert scale from no importance to extremely important			
Source: Hungry Cities Partnership			

and the inability to find alternative employment, and entrepreneurial interests, including the desire to run one's own business, personality traits, and the appeal of being one's own boss and managing one's own time. The combination of these motivations adds support to the argument that informality can be an opportunity for some and a necessity for others.

Insights can also be gained from the challenges that individuals and enterprises in the informal food sector confront in conducting their business. Table 4 identifies some of these challenges for vendors in Cape Town, Maputo, Kingston, and Nanjing. With some notable exceptions, vendors in these four cities highlight a common set of challenges surrounding competition, few customers, poor sales, and high prices for supplies. These concerns are, of course,

interrelated as they contribute to market conditions in which too many sellers compete for too few customers and find the cost of goods high in relation to low profits. That these exist in a context of urban food insecurity reveals a central tension at the heart of the informal food economy: while demand for the food that vendors sell remains high, the low incomes of customers act as a major barrier to access. Poor households cannot afford the food that informal vendors are selling, and those vendors in turn do not have enough customers to adequately support their businesses. Questions of informality and urban food access are therefore fundamentally questions about poverty.

Of equal importance are the insights that this data provides into what challenges informal food vendors do not identify as particularly significant.

TABLE 4: Informal Food Vendor Business Challenges

Business challenges (% agreed)	Africa		Latin America and Caribbean	Asia
	Cape Town	Maputo	Kingston	Nanjing
Business competition				
Too many competitors	67.3	77.9	47.7	75.7
Too few customers	75.1	90.1	87.7	83.2
Insufficient sales	59.2	85.4	87.7	82.9
Verbal insults against your business	13.0	23.1	43.9	9.7
Conflict with local entrepreneurs	19.6	10.2	8.8	18.6
Competition from supermarkets/large stores	33.6	27.8	9.5	47.9
Business costs				
Suppliers charge too much	65.6	78.9	69.5	65.0
Customers don't pay their debts	37.9	51.7	62.7	22.1
Lack of access to credit	18.3	26.0	16.6	5.6
Lack of relevant training in business skills	29.5	23.2	35.0	19.8
Infrastructure issues				
No refrigeration	14.5	8.4	4.4	11.4
Storage problems	22.3	17.6	10.2	19.8
Victims of crime				
Theft of goods/stock	21.7	34.8	28.1	17.5
Confiscation of goods by police	11.3	13.6	–	–
Harassment/demands for bribes by police	7.8	8.2	–	–
Theft of money/income	13.3	18.5	16.5	5.9
Physical attacks/assaults by police	5.4	3.2	–	–
Arrest/detention of yourself/employees	4.0	1.3	8.7	0.5
Physical attacks/assaults by citizens	7.0	2.2	3.8	4.3
–: Question not asked				
Source: Hungry Cities Partnership				

Notably, it shows some issues that are common in both literature and policy – including access to credit, business skills, infrastructure, and treatment by authorities – are not seen as primary concerns. Interventions that seek to address these concerns, despite their popularity, may be of limited use. Perceived competition from supermarkets, which varies from city to city, is also not as intense as one might assume. HCP survey results also identify innovative strategies that vendors have adopted in response to the challenges they face, including offering credit, price undercutting, targeting particular locations, bulk and collective buying, bulk breaking, and the use of cell-phones to gather information on wholesale pricing. These strategies may allow for improved business performance, but they are no substitute for effective governance.

Detailed information about vendors' motivation and major business challenges can inform informal food sector governance by both identifying key problems and pointing to potential solutions. HCP data suggests that three issues merit close attention: the large number of people driven to informality by necessity rather than choice; the interrelated problems of excessive competition, few customers, low sales, and the high cost of supplies; and the coexistence of poor sales for vendors and low levels of household food security. Governments have three clear points of entry to address these issues. The first of these involves providing direct or indirect forms of support to customers to allow them to be able to purchase food in the informal sector. Cash transfers could be a simple and effective means of increasing the purchasing power of the urban poor and deserve further attention in the context of food security in the Global South. A broader set of social programs that allow households to reduce expenditures on healthcare, education, and transportation could also provide the urban poor with more income to spend on food, giving them a value beyond strengthening the social contract.

The second approach that governments could adopt entails providing various forms of support for vendors that allow them to improve business performance. These go far beyond traditional efforts to reduce taxes and regulatory costs as a means of

promoting formalization. Governments should work with vendor associations to improve supply chains by directly connecting sellers with producers, particularly those in rural areas, and helping them collectively bargain for the purchase of large quantities of goods. Efficiency can be greatly improved through economies of scale that more effectively integrate vendors into local and regional food supply chains, lowering prices, increasing quality and reliability, and boosting incomes for producers. More boldly, governments could purchase goods from the informal food sector as a short-term stimulus measure when necessary. During periods of economic downturn, governments should explore the possibility of using their considerable countercyclical fiscal powers by purchasing agricultural goods from vendors to distribute to groups experiencing food insecurity. Informal food vendors could then use the capital from such an exchange to reinvest in their businesses, promoting long-term growth when market demand recovers.

Finally, governments must prioritize formal employment creation to ensure that labour markets are able to meet the demand for jobs. Participation in the informal food sector is, for many, a result of labour market exclusion rather than personal preference. Governments must do more to facilitate the inclusion of the poor through fiscal and monetary policy and targeted development initiatives. Doing so would not only allow for greater numbers of poor households to secure a stable income and afford adequate and sufficient food, but could also increase spending at food retailers and ease the competition pressures that contribute to inadequate customers and poor sales.

Key Knowledge Gaps

One of the major obstacles to the development of an enabling policy environment for the informal food sector is the tendency, on the one hand, to promote negative stereotypes of informality and, on the other, the lack of accurate knowledge to contest these stereotypes and to create a knowledge base for good governance initiatives. At the

most basic level, it is clear that there are no basic statistics, as there are for informal employment generally, on the size of the informal food sector in countries and cities, much less on its role in the urban food system and its contribution to the food security of the poor. Significant knowledge gaps still exist in current understandings of the informal food sector and its role in urban food systems more generally. Addressing these gaps presents several potential avenues for valuable future research. An open source Informal Food Systems Data Platform which would centralize the collection and dissemination of data, statistics, and research findings on the informal food sector is highly recommended. Priority areas for research include the following:

- More accurate country and city-level data is needed to capture both the size and scale of the informal food sector across a variety of national and local contexts. This quantitative work would not only possess significant descriptive value, but also allow for the testing of hypotheses and the identification of the correlates of informality. This must be complemented by more in-depth case study analyses that can capture that dynamics and complexities of the informal food sector, allow for further scrutiny of broader trends and issues identified here, and inform the establishment of best practice guidelines for informal sector governance. Of considerable value would be (a) analyses of the effects of specific policies and interventions; (b) longitudinal studies of firms and sectoral clusters as they navigate the opportunities and challenges posed by informality, and (c) comparative historical studies of how institutional evolution can shape informal food sector governance.
 - Much remains to be learned about how the informal food sector is structured and how it operates in cities throughout the Global South. Several dimensions of the informal food sector remain understudied and deserve further attention. Topics of particular importance include: (a) the structure and operation of informal food markets; (b) the design and enforcement of effective urban taxation systems; (c) the rights of the urban poor to access food and engage in informal economic activity; (d) the impact of the supermarket revolution on the informal food sector; (e) the role of internal and international migrants in the informal food sector; (f) the opportunities for youth employment in informal food supply chains; (g) the implications of climate change and the role of the informal food sector in environmental sustainability; and (h) how new technologies can be exploited to benefit informal food sector governance and development. Each of these points is elaborated below in the form of key questions that need to be answered.
1. *The structure and operation of informal food markets:* what forms of market failure are food vendors subject to? What role do social networks based on familial, community, ethnic and/or religious ties play in shaping forms of production and exchange? How are decisions about pricing, resource allocation, and inventory made? How are supply chains established and managed? How do they respond to macroeconomic fluctuations and formal economic shocks, including a decline in aggregate demand, credit restrictions, and currency instability? Is the informal sector pro-cyclical or counter-cyclical, or can it be either under certain conditions (Arvin-Rad et al 2010, Fiess et al 2010, Loayza and Rigolini 2011)?
 2. *The design and enforcement of effective urban taxation systems:* How can local, regional, and national tax systems be reformed to balance concerns about simplicity, fairness, revenue maximization, economic growth, poverty reduction, and food security? What forms of taxation are particularly burdensome to the urban poor, and how can these be redesigned or substituted for alternative revenue sources that are seen as more legitimate and are therefore more effective? How can the urban poor be included more meaningfully in budgetary decision-making processes? What steps can governments take to improve tax compliance and, more generally, to address the political, bureaucratic, legal, and social roots of evasion and avoidance in society more generally?

3. *The rights of the urban poor to access food and engage in informal economic activity:* How is the realization of the right to food related to a broader collection of political, economic, and social rights? How can the right to engage in informal trade be theorized and put into practice? What strategies offer the most promise for protecting legal rights? How should property rights regimes be designed and/or reformed to the benefit of the urban poor? How can rights outlined in international human rights treaties, including the right to food, be enforced in practice?
4. *The impact of the supermarket revolution on the informal food sector:* Is the Global South undergoing a supermarket revolution and what is the impact of supermarket expansion and their supply chains on the informal food sector? Is, as some maintain, the impact primarily negative and destructive or is the picture more complex, nuanced, and city-specific? Under what conditions and circumstances can the two coexist and be mutually supportive? Should governments implement controls on the unbridled spatial expansion of supermarkets to protect the spaces and markets of informal vendors? Should supermarkets engage in CSR programs to actually support the informal food sector?
5. *The role of internal and international migrants in the informal food sector:* What role do national and international migrants play in the informal food sector? What opportunities does the informal food sector provide for migrant youth? What specific challenges and opportunities does each group face? How can governments act to ease labour market entry and maximize their livelihood gains?
6. *The implications of climate change and the role of the informal food sector in environmental sustainability:* What role can the informal food economy play in promoting environmental sustainability? How can the informal food sector be incorporated into climate change plans (Brown and McGranahan 2016)? How will it be impacted by and have to adapt to the effects of climate change, including drought, desertification,

declining productivity, migration, and resource conflicts? What potential conflicts exist between environmental sustainability and informal food sector growth and how can these be overcome?

7. *How new technologies can be exploited to benefit informal food sector governance and development:* How can governments invest in technologies that improve the transparency of informal food sector governance and facilitate savings and investment by individuals and firms engaged in informal economic activity? How can peer-to-peer lending services, open financial software, monitoring and evaluation programs, SMS money transferring systems, and blockchain-based technology be harnessed to limit corruption, improve capital allocation, and increase financial efficiency? What are the potential obstacles to and costs involved in the adoption of these technologies? How can governments partner with international organizations, civil society groups, private sector actors, and, most importantly, informal food sector vendors and customers to explore these technologies?

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