Large-scale forces, global tendencies and rural actors in the light of the SDG goals
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1. Introduction

In recent decades, Latin America’s agriculture has been increasingly integrated into agroindustrial and agrifood chains forming in their turn global value chains (GVC) often dominated by the demand driven large-scale retail sector. This has shifted economic power to actors up- and downstream of agricultural production, an understanding of whose strategies and behavior is decisive for the implementation of the SDGs. The design of policies for achieving these SDGs needs to take into account the complex distribution of economic power along the GVCs and the ways in which this can be leveraged for the promotion of the SDGs. Equally important is the radical shift in agrifood trade and investment flows from North-South to South-South with Latin America and China as the dominant poles, which poses specific challenges for the attainment of SDGs. And finally, the agrofood system is currently being transformed by the digital revolution involving the entry of global players from outside the sector challenging the incumbent players at all levels. Evaluating the implications of the digital revolution and the opportunities and challenges which it represents will be critical for achieving the SDG goals.

Latin America’s agricultural and natural resources and its rural spaces have been subject to concentrated patterns of ownership and integrated into global markets dominated by international actors since the first days of colonization. As of the 1970s, the dynamism of global commodity markets entered what was understood to be a long-term decline in response to the slowdown of growth in developed countries and to the shifts in demand from basic to more differentiated products. Moreover, the Prebisch/ECLA thesis and its dependency theory extensions questioned economic strategies based on commodity exports in favor of industrialization through import substitution.

In agriculture, these developments led to strategies for the promotion of non–traditional exports and domestically to the development of new production chains for the increasingly urban diet of Latin American populations (Athukorala and Sen, 1998). Both these strategies led to the emergence of new, leading actors. In the export sector, these often involved foreign capital, the use of irrigation technologies and wage labor and focused on fresh products – fruits, fish, seafoods. Domestically we saw the rise of new national players, especially in white meats, dairy and vegetables.

To deal with these transformations, a new analytical framework based on the concepts of the agroindustrial chain or agroindustrial complex became widely diffused, in which agricultural
production and actors were seen to be subordinated to an industrially dominated production chain, both upstream and downstream of agriculture. A second wave of research as from the 1990s focused on the rise of large-scale retail in Latin America in the wake of neoliberal reforms and globalization. To the extent that an emerging middle class reproduced consumer trends in Latin America which had previously stimulated non-traditional exports to developed economies, this process further redefined relations between agriculture, industry, distribution/retail and the consumer. Special quality standards required in export markets and domestically, in accordance with both public and increasingly private regulation, created new barriers and baselines for the integration of farmers into dominant markets (Reardon and Berdegué, 2003).

The first decade of the new millennium was dominated by the impact of rapid and sustained Chinese economic growth on the demand for commodities, mineral and agricultural. We witnessed a “return to commodities” and an explosion in commodity exports from Latin America, now increasingly on a South-South trade axis. While the demand for products meeting quality criteria and non-traditional agricultural exports continued, it was dwarfed by the explosive expansion of the agricultural commodity products of the urban diet – soy, corn, beef - to attend the unprecedented urbanization in China and other emerging economies. With the recent retraction in Chinese growth the agricultural commodity export cycle is slowing down but demand for products of the animal protein diet persist and are likely to continue over the medium term.

In the context of the agricultural commodity boom in the first decade of the new millennium, new-style land investments characterized as landgrabbing or “foreignization” in Latin American literature, came to occupy the center of attention. In addition to new actors, research on this issue revealed that new forms of investment in agriculture and agricultural land were becoming central. The importance of finance capital had already been identified in the early analysis of agricultural modernization, but this was largely a case of public investment and operational credit. FDI had also been particularly important for the creation of multinational subsidiaries in Latin American countries. Today, the leading role is taken over by investment funds, hedge funds and equity capital of various types, including sovereign funds of countries rich in capital but poor in agricultural resources. The futures market has also become an instrument used by farmers to hedge at least their production costs. Many see these developments within the larger framework of financialization, understood as a new phase in the dynamic of capitalism which not only refers to the hegemony of finance capital, but also to the way in which the strategies of traditional actors in the agrifood chain are increasingly subordinated to financial goals and gains, (Isakson, 2014; Fairbairn, 2015).

Today, for many Latin American countries, China is not only the principal destination for agricultural commodities and for raw material exports but is also a leading investor in the agrifood sector and in infrastructure and energy, all of which have a major impact on rural areas. There are many issues involved in analysing Chinese investments: to what extent the switch back from non-traditional to basic agricultural commodity exports represents a process of down-grading; to what extent quality and traceability standards increasingly being imposed on Latin American agricultural exports by developed country markets are threatened by the growing importance of the Chinese market; to what extent increased exports are accentuating climate change and biodiversity concerns; what are the food security implications of increased agricultural commodity exports to China; and to what extent (and with what implications) is China becoming a dominant partner in the provision of infrastructural investments (Jaguaribe, 2018).
The predominance of the financialization debate has tended to highlight the speculative nature of current investments in agricultural land and commodity markets with the emergence of mega-farms seen largely as an expression of this tendency. The digital revolution, however, is now also diffusing rapidly into agriculture and into the whole of the agrifood system. From this perspective, far from being a speculative anomaly, the mega-farm seems to correspond closely to the management potential of digital technologies, which would suggest that they may become the “new normal”.

A new innovation dynamic is underway in agrifood, with investments and goals being driven by private actors not traditional to this sector – start-ups, venture capital and investment funds, the giants of the digital industry (Google, IBM, Amazon). Food, rather than agriculture, is the central focus of these innovations seen from the perspective of the global challenges posed by a now dominant and rapidly increasing urban population, in the context of climate change and resource scarcity. This focus on “demand” rather than “supply” (productivity) makes innovation more attuned to consumer and public regulatory concerns over the relation between food, health and diet. While, therefore, current global trends point to a continued demand for the land– and water-intensive crops which characterize much of Latin America’s competitiveness, the main thrust of the current wave of innovation is driven by the search to save and, taken to its limit, to dispense with traditional natural resources. Vertical agriculture would be the most advanced development in this sense.

Globally, private forms of regulation and coordination have assumed greater importance following the liberalizing measures of the 1990s. This has been an uneven process and public policies and regulation have continued to be crucial. Nevertheless, in this more liberal scenario national and global NGOs have played an increasing role in the coordination and regulation of economic activities. This is particularly true in agriculture and the environment, where NGOs and related social movements have successfully brought transnational corporations into negotiation and agreements on a range of issues connected to the SDG goals (e.g. roundtables on Responsible Commodities; various pacts to exclude suppliers from recently deforested areas; acceptance of civil society monitoring by transnationals). In the more recent period many of these organizations have seen their funding diminished. If we add the global shift in trade to emerging economies and the current advance of authoritarian/populist governments, it remains to be seen to what extent global NGOs will continue to be effective interlocutors with the corporate world in the promotion of SDGs.

3. Latin America and Global Trends

Before analysing how dominant actors are positioning themselves it is useful to situate Latin America as a whole in the global context within the time frame for implementing the SDG goals around 2030. We are already in a geo–economic transition in which the Asian world is becoming
the dominant force in global demand not only for basic agricultural and mineral commodities but also for the more sophisticated products and services typical of middle-class life. These trends will continue as population growth translates into accelerating urbanization.

Although it is unlikely that the other major emerging countries in Asia will reproduce to the same extent the rapid and marked shift to an animal protein diet that has occurred in China, continued demand for products of the animal protein complex are projected to persist over the next decades. In this context, increased but slower demand will likely be accompanied by downward pressures on prices. Rising costs provoked by volatile climate conditions, increased resistance to chemical inputs, and more stringent regulation will reinforce scale efficiencies and accelerate a range of “bio” alternatives, some of which are already underway.

Asia is the anti-thesis of Latin America in that the ratio of natural resources to population size is markedly unfavourable, whether we consider land, water or mineral resources. Huge populations are also at risk from the ravages of climate change. Nevertheless, China and to a lesser extent India have shown a remarkable ability to maintain high levels of agricultural and especially basic food self-sufficiency and have also been able to situate themselves favourably in global markets. In the climate of protectionism likely to continue in the decades ahead, strategies for control over global supplies will be combined with further moves to self-sufficiency.

In this context, it is important to note that China particularly has combined rapid economic growth with strategies for technological “catching-up” which are situating this country in a leading position in the range of knowledge frontiers that comprise the digital revolution. While this is an ongoing issue, China is on the way to avoiding the middle-income trap as it becomes increasingly autonomous in a range of advanced technologies. In this light, we can expect that the goal of food and energy security so central to China’s concept of state legitimacy will involve initiatives on the frontiers of agriculture and food. China is already a leading investor in vertical urban agriculture and is reinforcing its agricultural capacity in soy and other crops.

Latin America is the most urbanized continent, and its demographic window is rapidly closing. Unlike Asia, its period of dynamic economic growth extended from the 1930s to the 1970s via import substitution within varied national economic frameworks. The consolidation of industrial global production chains since the 1980s largely excluded Latin America, consequently precluding its integration into the informatics and electronics paradigm. This situation has made recent efforts to participate in the digital revolution even more modest. Asian integration into global value chains (GVC) has left Latin America vulnerable to varying degrees of deindustrialization as cheap labour goods first, and now advanced technology imports threaten large swathes of its domestic industries.

Central Europe, Russia and the Ukraine and the savannah regions of Africa have been the targets of investments, particularly but not exclusively from China, with a view to expanding the agricultural commodity frontiers globally. These will certainly exert greater influence in the coming decades both on European and Asian trade. Nevertheless, in a whole range of food and non-food crops the Latin American continent will remain the chief source of agricultural and mineral resources for the global market. This is particularly important since agriculture, forestry and biomass are now participating fully in the digital revolution and are beginning to offer a new opportunity for technological catching up. We will discuss this in more detail below.
Latin America has been dominated by large-scale farming and agroindustry concerns from its earliest colonial years. In the process of its twentieth century urbanization, US and European multinationals were key players in the consolidation of urban food industries in Latin America. In addition to developing modern food markets and pushing agricultural modernization, these actors have largely dominated the continent’s trade with the US and Europe. The shift of trade and global agricultural and food demand to Asia has meant that many of these firms now have the greater part of their turnover and investment in Asia. Latin America’s increasingly strategic role as exporter of primary goods may have as its counterpart a decline in these global players’ investments in the domestic markets of Latin American countries.

4. Patterns of Governance

We mentioned above the development in Latin American studies of analytical and methodological concepts based on the agroindustrial complex or agroindustrial production chain. In this view, agriculture was no longer seen as a separate sector articulated via market mechanisms to inputs and processing and final consumption. Rather, agriculture became directly subject to the economic power of upstream and downstream actors who were able not only to control costs but to dictate production processes and market outlets. Agriculture became a subsector of an economic space dominated by oligopolistic actors. The broader domestic and international economic space, however, remained tightly regulated by national states or international organizations in this period.

With deregulation and globalization gaining traction in the 1990s the coordination of economic activity came increasingly under the control of leading private actors. The most influential theorization of this process was provided by the Global Commodity Chain, later Global Value Chain (GVC) analysis. Economic activity was not understood as a series of inter-related but autonomous markets. Instead, GVC conceptualized whole areas of activity – from inputs to sales of final products – as under the control of leading actors. A fundamental distinction was drawn between the organization of complex capital-intensive production systems where the leading actors would be those coordinating the supply, known as producer-driven value chains, and activities organized on the basis of a privileged control over demand. The latter (demand-driven value chains) were seen to be more typical of the agrifood system with its focus on brand differentiated products organized through an uneasy alliance between final foods and large retail, with the latter increasingly getting the upper hand.

This basic scheme has been the subject of many further elaborations. The work of Fold (2002) and Ponte (2015) is of particular interest, as both authors have made key contributions to the study of agrifood systems. In his study of the cocoa chocolate GVC, Fold argues that the producer-versus demand-driven typology is too simple; in the case of cocoa/chocolate there is a bipolar form of governance, involving the global traders/processors and the chocolate firms. Ponte has taken this approach further and has argued for the existence of multi-polar patterns of governance, based on his studies of the biofuels value chains. Wilkinson (2006), using the case of the fish GVC, has also identified the existence of multiple conflicting spheres of economic power which can undermine overall governance.
If we consider the major agrifood value chains we can clearly distinguish four nodes of economic power and strategies of governance: the inputs and agricultural machinery industry, the traders/processors, the final foods industry, and large-scale retail. In some cases, such as white meats, leading firms may control inputs, processing and final products, leading to a bi-polar pattern of governance with large-scale retailers.

Within our concern to identify the challenges in implementing the sustainable development goals, the positions adopted by the leading actors become central. On the hypothesis that multi-polar, and not producer- or demand-driven governance is the norm in agrifood global value chains, we are then faced with the more complex task of examining the ways in which each of the dominant actors in a given GVC promotes or inhibits the measures necessary for attaining the relevant SDGs for the agrifood sector.

In addition to the complexities of identifying the drivers governing the different GVCs an effective typology must also include the dynamic and changing features of governance and the way they affect policies and strategies to achieve the SDGs. Three elements can be highlighted here. The extraordinary increase in demand provoked by economic, population and urban growth in the large Asian emerging countries (to which we should also add the Middle East) has led in Latin America to an expansion of agricultural and forestry frontiers into entirely new biomes and economic and cultural spaces. New populations and regions have been drawn into the spheres of these GVCs often exacerbating environment and social conditions.

In the specific context of food and resource security concerns of emerging countries these demand side tendencies are driving the entry of new leading actors who challenge existing governance structures. In the case of China, and if we limit ourselves to the animal protein value chain, this involves a challenge to the existing patterns of multi-polar governance at all key nodes of the value chain. In addition, the leading Chinese firms which are now competing for at least a share of economic control are global players of a new type – namely state-controlled transnationals.

To these dynamic transformations we must add the effects of the digital revolution, one of whose principal impacts is to redefine the position of agriculture within the GVCs. From the perspectives of the agroindustrial complex and the GVCs, agriculture is no longer a space of economic power since it can be controlled up- and downstream not only in terms of costs and prices but also in terms of the agricultural production systems to be adopted. A corollary was that the small and medium enterprise, the family farm which proved capable of incorporating technology, became the ideal typical partner in the GVC rather than the “large capitalist farm”.

A number of factors is currently undermining this agroindustrial model. The occupation of new agricultural frontiers opened up the possibility of redefining minimum scales for farming operations. Perceptions of resource scarcity and the emergence of new financial instruments led to a wave of global investments in land and the emergence of what became described as “mega farms”. For many analysts, this development is an expression of the broader financialization of economic development associated with speculation and baptized as “landgrabbing”. In the light of the digital revolution, however, which allows for scale efficiencies unachievable until now, mega farms may become the “new normal” for commercial agriculture. Intelligent machinery, drones, sensors and smart apps now permit tens of thousands of hectares to be managed with the same precision and knowledge that previously constituted the comparative advantage of the small farmer.
Research on the Brazilian soy/grains/cattle frontier suggests that a new class of farmer is emerging: one with increasing economic power who is able to negotiate with up- and downstream actors and which is developing an awareness of its own interests. If this proves to be the case, the multi-polar perspective will have to make room for a new actor whose stance on sustainability will be crucial for designing and implementing the sustainable development goals.

5. SDG strategies in the light of global trends and governance dynamics

While Latin American governments have committed to the SDGs, their implementation must take into account the global trends we have outlined and the governance arrangements which currently organize productive activities. Over the last decade interventionist governments predominated in Latin America and have now largely given way to more liberal governments. It is not unlikely that these swings will occur again in the coming decades. Even in the case of interventionist governments we have seen how quickly policies, public regulations and monitoring systems become subject to rent seeking and capture by interested parties. Nevertheless, public policies have been decisive in the promotion of measures to diminish inequality, extreme levels of poverty, hunger and malnutrition, and to defend minority rights. They have similarly played an important role in defining new baselines for the protection of the environment. There is no doubt, however, that without the active collaboration of the varied private actors driving the global value chains it is unlikely that any of the SDG targets will be achieved.

Here it is worth introducing a caveat. In this paper we have been asked to focus on dominant actors, but it is vital to recognize that the dynamic of global production systems depends equally on the organizing ability of subordinate actors, their capacity to voice their interests and mobilize support for their implementation. In this sense, a key role of democratic governments is to allow the full expression of conflicting interests and provide the conditions for effective negotiations among different actors.

In our discussion of the multi-polar nature of governance prevailing in most of the global production systems which are directly relevant for achieving the SDGs, we have identified a new actor who we consider will have a key role – the large-scale farmer. Often this actor may have multiple properties in different localities and even in different countries, but of all the actors strategic for governance, they are the least globalized and the ones most rooted in a specific “landscape”. Their understanding and commitment to SDGs will be decisive in the achievement of these goals. We will discuss tendencies affecting this group of actors below.
All the other dominant actors in the four strategic nodes responsible for the coordination of global production systems are transnational and present throughout the Latin American continent. This is also true of the leading NGOs which are now an integral component of the GCVs. Given the oligopolistic nature of these actors, we are dealing at each node with a small number of recognizable actors whose record with regard to similar sustainability goals — is public, either through their joint actions with international NGOs or through their membership in diverse policy networks.

When the USDA and the US Land Grant colleges launched the “low inputs sustainable agriculture” (LISA) Program in the 1980s it was met with skepticism by agribusiness. A ConAgra executive suggested it should be renamed FIDO for “fewer inputs, declining outputs” and a representative of International Mineral Corporation proposed LILO, “low input, low output” (Beus and Dunlop, 1990). Today, instead, all the leading actors of the agrifood system active in Latin America claim “sustainable” status and endorse the “business case for sustainability”. Some, like Unilever, are taking the lead in promoting the SDG goals within this framework. Of the different strategic governance nodes, those downstream have proved most open to joint initiatives with civil society organizations, including the monitoring of their supply chains. This would be in line with Gereffi’s characterization of “demand driven” GVCs, (2001). Examples in Latin America include the moratorium excluding supplies of soy coming from recently deforested areas in Brazil, and the monitoring of Coca Cola and Pepsi Cola by Oxfam America in relation to labor, gender and environmental sustainability criteria.

Given this visibility of leading downstream actors, their clear commitment to sustainability at the level of discourse, and the monitoring activity of NGOs, a useful input for identifying the challenges facing implementation of the SDGs would be the drawing up of a balance sheet of commitments and practices adopted by key players over the last decade. This would allow their discourse to be judged in the light of effective commitments and would also reveal which components of sustainability are most assimilable or resisted by leading actors.

Upstream actors, more specifically the agrichemical/genetics firms also increasingly adopt the language of sustainability and are active in global “responsible agricultural commodity” forums. Their research portfolios also suggest an increasing concern with “bio” solutions. Nevertheless, their track record with civil society organizations and mobilizations has been marked more by conflict than by cooperation. Traditional chemical/mineral fertilizers have become a central concern for farmers given their high and increasing share in production costs which threaten the continuing sustainability of their farming systems. Bio innovations are being developed largely outside the traditional actors in this sector.

The digital revolution has thrust the agricultural machinery industry into a central position in the inputs sector, with the tractor transformed into a mobile computing service through which big data farm management systems are filtered. The firms in this sector, until recently overshadowed by the chemical/genetics inputs sector, have enormous capital resources and will be crucial players in the consolidation of new farming systems. Precision agriculture will stimulate new generations of farming equipment and irrigation systems. It will also shift the focus from product sales to services whose value lies in increasing the efficiency rather than the volume of inputs. The agrichemical/genetics firms are adjusting to this development and in recent years most of Monsanto’s patents have been in big data systems. The windows of opportunity for new forms of economic power and/or empowerment are still open, but in contrast to its mocking response to the LISA USDA Program in the 1980s, the inputs industry will now be restructured under the leitmotifs of “low inputs” and “sustainability”.

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The digital revolution, however, is not restricted to the agricultural inputs industries but is having a seismic impact on all the existing nodes of economic power in the global value chains. We use the term “digital revolution” as a catchall concept and include within it disruptive advances also in genetics, nanotechnology and synthetic biology, all of which have been made possible through the mobilization of big data. It is not sufficient, therefore, to focus only on the incumbent leading players and the governance structures currently in place. It may be that the established leaders manage to negotiate and/or absorb the new technologies and actors which are redefining the content and organization of the global agrifood system. This, however, will require a radical restructuring of their modes of operation.

If we now revisit the key nodes of economic power in the GVCs from the perspective of the digital revolution we see new challenges and opportunities for the implementation of the SDGs. Before considering these it is important to highlight what is decisively different about the current drivers of innovation in agrifood. Simplifying radically, we can say that in the recent period there have been three waves of innovation transforming global agrifood. The first, the Green Revolution was led by the international network of public sector agricultural institutions, organized through the CGIAR system. The second, with the breakthrough in genetic engineering, shifted the initiative of innovation to the private sector, located in the traditional genetics and agrichemical inputs industries of the agrifood system. Now with the digital revolution the key drivers in agrifood innovation are no longer situated within the agrifood system. We are dealing with a model of venture capital supported agriculture and food start–ups which identifies the key challenges and opportunities facing the agrifood system from an urban and global perspective, rather than from the established interests of any traditional GVC actor. Radical solutions – especially in relation to the animal protein diet and urban food systems – will not likely emerge from within established actors. In this scenario, the incumbent leaders are on the defensive and have to react to an agenda they no longer control. The decision of Nestlé to establish a research center in Silicon Valley is symptomatic of this new dynamic.

A further disruptive feature of the digital revolution in the governance of global value chains has been the entry of the informatics and digital giants into all the key nodes of the agrifood system. Microsoft, Google, Amazon and their Chinese counterparts are now major players both up- and downstream as big data redefines the organization of the nodes and the overall governance of the agrifood GVCs.

In Latin America, especially in Argentina and Brazil, but also in Colombia, Peru, Mexico and Chile where the start–up mentality has a long history, the Silicon Valley model is leading to the creation of “ag hubs” grouping together “ag” start-ups in different localities supported by venture capital (and also, as in Mexico and Chile, government funding). In the Southern Cone countries this development feeds on the managerial needs of a new class of mega farmer anxious to explore solutions that lower costs and provide leverage in relation to the incumbent agricultural inputs players. The latter, led by Syngenta/Chem China and Monsanto/Bayer, are also trying to establish themselves in this new ecosystem, but the proprietary technology which was determinant in the case of genetic engineering is proving more complex to impose.

This start–up milieu focused primarily on digital farm management is in turn strengthening the options of the new mega farmer. In the State of Goias in Brazil, a Farmers’ Association of some 30 members but responsible for 25% of the State’s crops, has its own 50 hectares farm for agricultural experiments. Here, and on their own farms, farmers test new practices in collaboration with local
universities independently of the agrichemical industry. The focus is on plant combinations and includes organic solutions for fertilizers and even the use of conventional seeds. The concept of sustainability in the sense of farming practices which do not lead to declining productivity over the long term, is at the center of their concerns. These new types of farmers will be key to proposals for the implementation of SDGs.

Latin America’s abundant natural resources which have shaped its place in the global agrifood system are in stark contrast to the global scarcity of these resources driving the most radical developments in the innovation agenda. Over the last decade the so-called incumbent “heritage” food firms have had to confront a new generation of “food substitution” firms which are challenging core traditional food products and their value chains – milk with no milk, eggs with no egg, meat with no meat. Heritage firms oscillate between legal challenges and copycat products, (Unilever), and acquisitions which leave the new brand and its management in place. Vegetarians and vegans now make up 10% of the young Millennial populations in countries of Europe and around 50% of the population in these countries declare that they are eating less meat (Wilkinson and Rama, 2018).

The food services sector is being revolutionized by the entry of on-line giants, Amazon and Alibaba, and the myriad ag food smart apps that are redefining consumer practices. While the pizza culture will certainly be reinforced by these developments, the smart app services open up the perspective for consolidating new consumer producer networks. Whether the focus is on justice and fairness, health, climate change, biodiversity or animal welfare, sustainability concerns over the food system have become mainstream for the consumer. Urban agriculture has taken on a new life and ranges from urban food justice movements, farmers markets and community supported agriculture to high tech vertical agriculture. In spite of the wealth of its agricultural resources, Latin America is the world’s most urbanized continent and shares the urban concerns influencing agrifood policies and has taken the lead in regulations in favor of healthier food. Urban concerns will provide an important impulse for the achievement of the SDGs.

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1 Based on fieldwork and interviews by the author.

2 We should not, however, underestimate their capacity for adaptation, as shown in the launch by Burger King of its first non-meat burger in partnership with Impossible Foods.

3 These tendencies are now global (in an official document in 2016 the Chinese Health Ministry called for a 50% reduction in per capita meat consumption) and may become a relevant factor in easing pressure on land and creating a more favorable environment for the implementation of the SDGs.
6. Conclusions

While the definition of specific goals and operational indicators provides a decisive framework for the implementation of the SDGs, the achievement of these goals will depend on an understanding of the ways in which the global agrifood system and its distinct components are coordinated and governed, together with the ability to correctly identify its leading actors. Public regulation remains a decisive component, but effective implementation requires the engagement of the leading private actors. The digital revolution, however, is changing the rules of the game and bringing in new players at all levels of the agrifood system. Over the time scale for implementation of the SDGs these new players will have consolidated their positions within the GVCs and will therefore be key to the successful attainment of these goals. Policies to accompany the shifts in economic power and the new governance structures in the GVCs and the global agrifood system should be integral to the monitoring of advances towards the SDGs in the coming decade.
References


