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Agricultural Development in the World Periphery: A General Overview

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1 Development, Agriculture and Periphery

The aim of this book is to provide a long-term perspective that allows a better understanding of the process of agricultural transformations and their interaction with the rest of the economy. During the 1950s and 1960s, most growth economists considered that agriculture played a negligible role in promoting economic development (Lains & Pinilla, 2009). This view, influenced by the impulse toward industrialisation in the global periphery, has only seldom been revisited, even though many recent studies have indicated the existence of positive relationships between agriculture and economic growth. These relationships derive from inter-sectoral

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links (Delgado, Hopkins, & Kelly, 1994; Hazell & Haggblade, 1993; Timmer, 2009), the strengthening of domestic markets (Adelman, 1984), technological (Hayami & Ruttan, 1985; Ruttan, 2002) and organisational improvements, or simply the exploitation of comparative advantage in the rural setting. Of particular interest is the analysis of changes in agricultural production and productivity and their relationship to per capita income levels, in order to assess the possible contribution of agriculture to economic growth. Also of interest is the analysis of the relationships between agriculture and other economic sectors during this process, the use of resources (land, labour, capital) and the influence of institutional and technological factors in the long-run performance of agricultural activity.

The structural transformation process, both as an analytical concept and as a historical event, implies a sustained improvement in agricultural productivity (Hillbom & Svensson, 2013). As productivity grows, the economy creates conditions to process a real structural change in which the transference of resources to other sectors with higher productivity is possible, and the final consequence is an increase in the total factor productivity (TFP). This structural transformation requires a highly productive agricultural sector that employs a small proportion of the whole workforce (Timmer, 2009). Despite the fact that relative prices may, at certain times, deteriorate for the agricultural sector as a whole—an issue raised initially by Raul Presbich and Oscar Singer eight decades ago—productivity growth also offers an opportunity to increase farm household incomes and, in consequence, improve living conditions and poverty alleviation in rural areas.[1]

Obtaining higher productivity in agriculture—in individual crops or animal husbandry, as well as in the whole sector—allows for increasing incomes within agriculture and, at the same time, more resources allocated to other activities. There is a long tradition of studying agricultural transformation as a universal process, and numerous attempts have been made to model the various stages, with, so far, no great success (Federico, 2008). Specifically, the starting point for this book is that structural transformation is a process of great diversity (Hillbom & Svensson, 2013). An overall comprehension of the variety of trajectories leaves much still to be learned, especially concerning the drivers of change in regions with low levels of development, institutional restrictions, a variety of distance to the technological frontiers, and different modalities of participation in the international markets.

Geographical descriptions of the world make use of various metaphors: expressions such as centre–periphery, North–South, or First/Second/Third World have the capacity to characterise, rapidly and intuitively, the spatial organisation of the global economic system (Vanolo, 2010). Given the wide circulation of these concepts, they play a fundamental role in the building of our personal geographical images (Baudrillard, 1983), and these representations are often determinant in the comprehension of the evolution and performance of countries and regions.

The core–periphery metaphor—applied on a global scale—has referred to the unequal distribution of power in the economy, in society, and in the polity, stressing the domination/dependency relationships between different regions of the world (Rodríguez, 2006). Because that metaphor was developed in a structuralist scientific framework,[2] the core–periphery approach emphasises the relational dimension of the spatial organisation of the economic scenario, which is the uneven power structure (sometimes expressed as polarisation) that reproduces differentiations in the economic role of territories (Vanolo, 2010). The understanding of modern economic growth, also from a core–periphery perspective, resurfaced in the 1990s from Paul Krugman in his seminal work of 1991 (Krugman, 1991), which was based on two initially identical regional economies, specialising respectively in modern (the core) or traditional (the periphery) activities in a scenario of sufficiently low trade costs, whenever manufacturing operates under increasing returns to scale, and the market for these goods is monopolistically competitive. The agglomeration of forces generates a mechanism of circular causation that produces an intense polarisation between both regions. The generalisation of the core–periphery pattern resulted "in the emergence of persistent differences in the economic structure of the industrial core as compared to the agricultural periphery" (Ascani, Crescenzi, & Iammarino, 2012).

Economic historians subsequently extended these ideas to the economic development of the world since the early nineteenth century, distinguishing between an industrialised centre and a periphery specialising in the production and export of primary products. For most of the periphery countries (the so-called poor periphery) this specialisation, together with their participation in the economy of the First Globalisation, would have produced long-term negative results due to de-industrialisation, increased inequality, and the volatility of commodity prices (Jacks, O'Rourke, & Williamson, 2011).

In the core–periphery metaphor, the emphasis is on the role and position of such areas in the world economy, emphasising dimensions other than the simple "rich–poor" dichotomy (historically, it is possible to identify "poor periphery" and "rich periphery", Lindert & Williamson, 2003). The use of this terminology implies the building of analogies with the economic marginality of certain territories and the need to research the spatial interactions between geographical regions (and not just the mere historical evolution of "stages" of development) in order to explain the "underdevelopment" phenomenon. This approach considers the dynamics between cores and peripheries, and allows for influences moving in both directions, and thus for truly comparative narratives based on mutual exchange and interaction (Hanns Reill & Szelényi, 2011).

2 Agriculture in the Periphery: Big Trends and Stylised Facts

Agricultural output has increased in the long run, enough to provide more food per capita to a population more than six times greater than at the beginning of the nineteenth century (Federico, 2004). Factor endowments—land, labour, capital—and institutions have mutually interacted to obtain this result (Hillbom & Svensson, 2013).

Agricultural production grew, thanks mainly to the increase in inputs ("extensive" growth) in the nineteenth century and to TFP growth ("intensive" growth) in the twentieth century. Unlike other productive activities, agriculture is vulnerable to and restricted by natural pre-conditions. Land quality matters through its determination of settlement patterns and possibilities of agricultural expansion and growth. The relationship between land and labour affects the options of technical and institutional arrangements, creates the organisation of production systems, and promotes the functioning of factorial markets.

"Traditional" property rights over land, which still prevailed throughout the world in 1800, have gradually been replaced by "modern" ownership, but the process is not yet over (Federico, 2004) and, many times, determines the very notion of periphery. Most states implemented land and tenancy reforms in the twentieth century, with mixed results. Family farms were already fairly diffused in the nineteenth century and their share substantially increased in the twentieth century. Agriculture has always been a very competitive sector because the economies of scale have been modest and large farms have shown a multiplicity of serious incentive problems (the *latifundio–minifundio* problem). In spite of this, the size of farms in the core countries increased in the second half of the twentieth century, in large part due to the prevailing technological change and an increasing "industrialisation" of primary production.

The organisation of labour constitutes the other pillar of the system of production (Hillbom & Svensson, 2013). Power relations, the access to other production activities and alternative occupations, as well as the institutions that regulate the relationship between workers, capitalists, and landowners, are of vital importance in the evolution of agriculture in the long run.

The government can make a difference in terms of the transformation process. The 1930s marked a watershed in agriculture policies, from a period of almost perfect "benign neglect" to an era of massive intervention (Pinilla, 2009a). After 1950, agricultural policies in the core countries favoured agriculture, at the expense of consumers, while, in the periphery, they sacrificed agriculture in the service of rapid structural change (Federico, 2004).

Market opportunities provide powerful incentives. Farmers respond positively to price incentives and demand patterns when they have access to the appropriate infrastructure and well-functioning local, regional, national, and international market institutions (Pinilla, 2009b). The extent and structure of the market is therefore of vital importance for change and growth in agriculture. Farmers set up numerous strategies to access and exploit endowments; diverse strategies are formed, restricted by existing pre-conditions in the form both of institutions, primarily property rights, and of factor endowments.

Following Federico (2004, 2008) and our own calculations, we have divided the last 145 years into two periods: previous to (1870–1938)[3] and subsequent (1950–2010) to WWII, and we propose estimates of indices of agricultural output in real terms for the world core and periphery.

The performances of both regions were similar prior to WWII, with annual growth rates of 1.1 and 1.2 per cent in the core and periphery, respectively (Fig. 1.1, Panel a). The variability of production in the periphery was notoriously greater, with large growth rates in the First Globalisation (1880s, 1890s and 1900s until WWI), low rates in the extremes of the period—prior to the Belle Époque (the 1870s)—and during the Great Depression (the 1930s) and a profound contraction during WWI (comparing the levels of 1913 and 1920) (Fig. 1.1, Panel b).

The performance of agriculture prior to WWI was undoubtedly good compared with the stagnation of the preceding centuries, but it loses historical relevance somewhat when compared to the growth of the post-1950 era (Bairoch, 1999; Federico, 2008).

According to estimates by the FAO, from 1950 to 2010,[4] world agricultural production grew 2.3 per cent annually—in other words, production tripled—and in this process the performance of the world periphery was absolutely determinant of the expansion (Fig. 1.2, Panel a). As the core

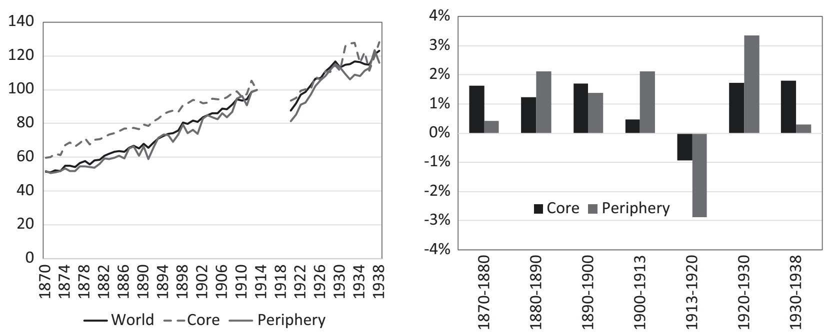

Fig. 1.1 Agricultural production in the world core and periphery 1870–1938. **(a)** Output real index 1913 = 100. **(b)** Growth rates in agricultural production. Source: Federico (2004, 2008) and own calculations

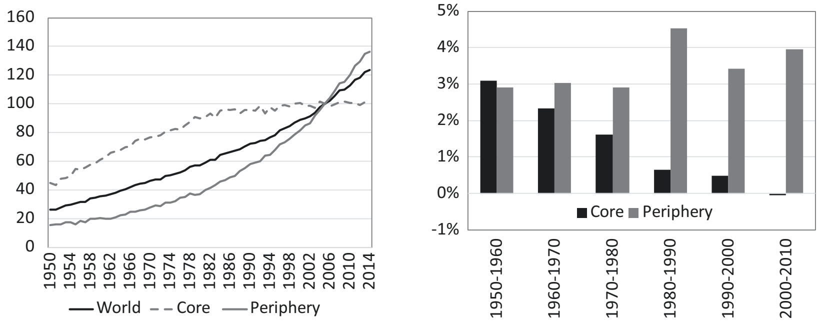

Fig. 1.2 Agricultural production in the world core and periphery 1950–2010. (**a**) Output real index 1991–1993 = 100. (**b**) Growth rates in agricultural production. Source: FAO and own calculations

grew 1.3 per cent annually, the periphery experienced an annual growth rate of 3.4 per cent, outperforming the industrially advanced countries with a notable upswing of Asian production (Federico, 2008). The result was a progressive acceleration of the periphery production—interrupted by the collapse of agriculture in the "transition economies" (the former Soviet Union and other Eastern European countries)—that contrasts distinctly with the slowing-down of production in the core (Fig. 1.2, Panel b).

3 What Can We Learn from History?

According to the previous concepts and considerations, we have selected economies and regions historically identified with the "world periphery" and considered the agricultural evolution of these countries or regions in the long run. On this basis, we have included three countries from Africa (Ghana, South Africa, and Zambia), thirteen from Asia (Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaya, Myanmar, Pakistan, Philippines, Taiwan, Thailand, and Vietnam), two from Oceania (Australia and New Zealand), Canada and the whole of Latin America (see Fig. 1.3).

As a whole, this group of countries represents over 40 per cent of the total world area, with decreasing trends in the population and GDP shares until the mid-twentieth century, and a significant recovery after WWII (Fig. 1.4). Our sample involves, historically, over one half of the world

Fig. 1.3 World periphery: our sample. Source: own elaboration based on CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=407551

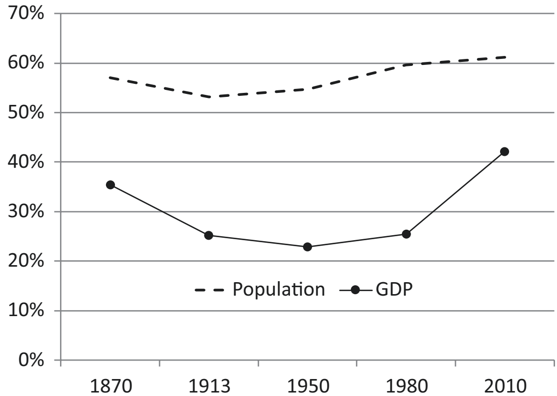

Fig. 1.4 World periphery: main indicators of our sample. Shares of world population and GDP. Source: The Maddison-Project

population, reaching 60 per cent by the beginning of the twenty-first century. In terms of world GDP shares, the trajectory of our sample draws a clearer U-shape evolution. In the 1870s, the sum of the GDPs of our sample represented one third of the world product but, by the mid-twentieth century, that ratio had declined to one quarter of the world GDP. The recovery of the second half of the twentieth century—noted previously for agriculture in Fig. 1.2—was impressive, and the GDP share achieved almost 45 per cent in the first decade of the twenty-first century.

What can we learn from history? A conceptual discussion is a suitable starting point to begin finding answers to this question.

In Chapter 2, Andersson and Till discuss the most influential views of the role of agriculture in development theory, as well as explaining the fluctuating scholarly attention to agriculture over time. This chapter identifies four main influential views on agriculture: agriculture as the fifth wheel; as a distorted sector with rational economic agents; as inherently important via trade (as injection or break); and as an engine of economic development. Today's agro-sceptics appear to be rooted in the fifth wheel school of thought, while the agro-proponents are more inclined to the "agriculture as engine, via structural transformation" school. It appears as if this view has been reinforced by the overall shift of objective within the development debate, from aggregate growth to pro-poor growth.

A possible positive contribution of agriculture to economic development is related to the role played by the export of agricultural products in the last two hundred years. Chapter 3, by Aparicio, González-Esteban, Pinilla and Serrano, is devoted to this topic. In the last two centuries, agricultural trade has grown at a remarkably rapid rate. In the first globalising wave, international trade was based on the exchange of primary products for manufactured goods. This provided important opportunities for complementarity in certain countries on the periphery that took advantage of the opportunity to base their economic development on the growth of their exports, and the linkages between them and the rest of the economy. However, most of the agricultural exporting countries obtained few benefits from this model of development (this pattern of trade was increasingly replaced by an intra-industrial one after WWII). In addition, the more developed countries tended to protect their own agricultural production, which was a major obstacle to agricultural trade at least until the end of the twentieth century. The beginning of the twenty-first century entailed significant changes, combining a higher incidence of market forces, "industrialisation" of agricultural production, and real structural changes within agriculture, offering non-traditional export goods that have opened new opportunities for growth and development.

In most of the tropical regions of the world, this agricultural reorientation toward foreign markets was generally directed in the colonies by an elite of large metropolitan landowners of large plantations. As we can see in Chapter 4, by Byerlee and Viswanathan, the evolution of plantations in the twentieth century has been remarkable. Plantations re-invented themselves and evolved from the earlier system of forced labour and colonial extraction into modern near-industrial firms operating in global markets. Additionally, while during the colonial period the record of plantations was often poor in terms of economic development and poverty reduction, it steadily improved over the century. Finally, and most importantly, these authors conclude that, in the early twenty-first century the plantation era is ending. By far the most important factor has been the rise of smallholders in the traditional plantation areas, due to a combination of their inherent efficiency, a more level playing field in policy support, institutional innovations to coordinate smallholder production with large mills and raise yields, and the reduced costs of entry after the pioneering stage of development. At the same time, transaction costs to plantations of accessing large amounts of cheap labour and land steadily rose over time. African countries are good examples of the long-run evolution of these traditional export crops of the periphery, although plantations were not always the technological option.

As Gunnarsson states in Chapter 5, cocoa in Ghana was predominantly a smallholder activity from the beginning, and it largely remained so over the course of the twentieth century. Ninety per cent of total production is today grown on smallholdings owned by individual farmers and operated, largely, by household labour. Cocoa in Ghana is indeed an export commodity, but it is not a plantation crop and the cocoa industry does not constitute an enclave economy. A fairly equitable distribution of assets among cocoa-producing households should have been an advantage in a drive towards industrialisation, as was the case in the East Asian "miracle" countries. Explanations as to why the Ghana case is different combine specific institutional and technological factors and conditions. Considering institutional issues, the distribution of assets is more unequal than we have been led to believe and, additionally, protection of property and regulation of profit accumulation (taxation and market arrangements) have been insufficient or have worked against the interest of the farmers. Considering technological issues, obstacles to productivity upgrades are related to physical factor endowments (type of commodity, soil conditions, man–land ratio etc.) that may have complicated or inhibited productivity improvements to be dispersed among a broad cross-section of farming households.

In contrast with the previous focus on institutional and technological issues, the starting point of Hillbom and Jenkin in Chapter 6 is the abundance of natural endowments—mineral deposits and land suitable for profitable agriculture—that characterised the historical evolution of Zambia (named Northern Rhodesia before independence in 1964). The authors present evidence of the extent to which, and through what mechanisms, natural resource endowments have influenced state policies and how these policies have determined the state of the contemporary Zambian agricultural sector. The discovery of mineral riches in the early colonial era, and the geographical location of those deposits, as well as that of fertile agricultural soils, have encouraged the extension of the railways, the settlement of large-scale farms, and government agricultural policies focused on securing food for a growing urban population. Maize has been given the role of a social contract crop, but agricultural policies have distorted opportunities for widespread agricultural diversification, creating instead a dual agricultural sector. The fundamental role of the agricultural sector has been to service the mining areas and the growing urban populations. With the government's consistent dependency on copper export revenues, Zambia remains caught in a reliance on two inter-dependent primary sectors, neither of which is dynamic enough to drive a structural transformation process. This kind of inter-dependence, and consequent interaction between diverse agents, with particular interests and different political power, opens interesting analyses of the political economy that dominates peripheral agriculture. South Africa is a good illustration of this notion.

Greyling, Vink and Var der Merwe trace, in Chapter 7, the progression from "suppression to support" of South African agriculture during the early twentieth century (1886 to 1948), revisiting the early part of the development of the South African agricultural sector, examining the nature of the alliance between "gold" and "maize", its subsequent disintegration, and the ability of either party to capture the state. The focus is on the evolution of political tensions stemming from the converging and diverging interests of groupings within the mining and agricultural sectors, and specifically how this facilitated the transition from "squeezing" a large but marginalised group of smaller white farmers, as well as black famers in general, to the reluctant "squeezing" of the mining industry by the state and the eventual complete marginalisation of black farmers. The South African case illustrates the complexity of the political tensions created during the transformation process and their long-term impact, since these played a significant role in putting the country on the path to apartheid.

In the Asian continent, agriculture has undergone profound transformations from the colonial period to the present day. In Chapter 8, Kurosaki examines the agriculture–macroeconomic growth link in India, Pakistan, and Bangladesh, using unusually long-term data that correspond to the current borders for the period c.1900–2000. The empirical results show two structural changes. The first occurred between pre- and post-1947 periods in India and Bangladesh. The portion of non-agricultural growth that can be attributable to agricultural growth increased substantially after independence/partition in 1947. The second occurred around the 1970s–1980s in all three countries, where non-agricultural growth that appeared to have occurred autonomously became the main engine of macroeconomic growth, with a secondary role for agriculture, at least until the end of the twentieth century.

Moving from the Indian subcontinent to Southeast Asia, Booth, in Chapter 9, argues that the key drivers of agricultural growth in Southeast Asia have been population growth, and increased involvement in international trade, which in this region led to the rapid growth in production of a number of crops for global, as well as domestic, markets. A third driver has been technological change, which increased output per unit of factor input. Institutional changes have also been important, but those changes have occurred mainly in response to the aforementioned (confirming the extended idea that the institutional framework is an endogenous process). Several of the following chapters delve into this region and present a more detailed description and analysis.

In Chapter 10, López Jerez focuses on the often-neglected role of agriculture in creating the basis for changing Vietnam's economy from one based on agriculture to one based on manufacturing industries. To do so, she compares two rice economies: the Northern Red River Delta and the Mekong River Delta in the South. The modern transformation of the South, with significant improvements in technology, specialisation, and increased income per capita suggests that agriculture became a driving force of the further industrialisation of the South, especially in terms of rural industrialisation. This chapter offers evidence in favour of the agro-proponent approach mentioned previously, which identifies the legacy of the "agriculture as engine, via structural transformation" school.

One of the most successful economies of the second half of the twentieth century was Indonesia, which is analysed by Axelsson and Palacio in Chapter 11. The authors measure structural change by looking at the gap between the share of agricultural GDP and employment for the whole country and its regions. Indonesia has been transformed from a predominantly agricultural economy to one based on industry and services. However, in a global comparison, particularly in relation to other Asian countries, the structural transformation has been sluggish, and poverty lingers, a consequence of the weak linkages across sectors and regions, and an indication that the process was fundamentally dependent on the state and its needs. In the 1970s, the state pushed for the transformation process with food security as the principal goal. This was coupled with an industrial policy that prioritised output rather than the creation of labour opportunities and the rise of the new entrepreneurial class. In the 1980s, when structural transformation slowed, in particular labour re-allocation, it coincided with diminishing state support for agriculture. It was not until a shift in industrial policy, forced by a decline in oil prices, when more labour-intensive manufacturing was promoted, that an acceleration in the process recurred. With the financial crisis and its political aftermath, a brief stagnation set in, but this was replaced by strong indications of a resurgence of agriculture that may be a sign that the structural transformation has been triggered again.

In Chapter 12, Ash, Du and King analyse the historical forces which shaped China's agricultural development during the Qing Dynasty and into the post-1911 Republican period. They then turn to post-1949 developments, where their focus is the government's attempt to resolve tensions between maintaining basic rural welfare and fulfilling its imperative of rapid industrial growth. The reforms which were instituted at the end of 1978 constitute a watershed in China's agricultural development as market forces and price signals began to make themselves felt, and farmers' decisions were no longer led by planning imperatives, but were increasingly shaped by changing prices. Simultaneously, rapid urbanisation, accelerated industrial development and large-scale infrastructural construction encroached on an already limited arable land base, whilst also encouraging massive inter-regional labour flows. Overall, grain output growth since 1978 has been impressive.

In the countries of Latin America, agriculture has also undergone profound transformations in the last two centuries, for reasons that have to do with the development models followed, as studied by Martín-Retortillo, Pinilla, Velazco and Willebald in Chapter 13. Initially, Latin American countries followed a commodity export-led growth model, based on agriculture and mining, that extended from the last third of the nineteenth century to the 1920s, with very varied results. After WWII, these countries moved to the progressive creation of the so-called inward-looking development model, in which agriculture definitively lost its once-leading role. However, since the beginning of the 1990s, a new strategy has been adopted that includes structural reforms and a return to the international market in agricultural products, with successful trajectories that tend to identify this stage with another prosperous era of globalisation (the authors recognise the period as a "real resurrection of the goose that laid the golden eggs"). The cases of Peru and Brazil illustrate these concepts.

In Chapter 14, Anderson seeks to shed light on the extent to which Australia's agricultural, mining, and manufacturing sectors have changed their contributions to GDP, employment, and exports in the course of Australia's economic growth over the past two centuries, with a particular focus on periods of mining booms and slumps. A key fact highlighted in this chapter is the persistence of agriculture in the overall economy for 100 years, and even during the latest mining boom, a process that responds to several factors: a large land frontier that took more than a century for settlers to exploit, declines in initially crippling domestic and ocean trade costs for farm products, innovations by farmers via a strong public agricultural R&D system, and reasonably sound macroeconomic policies that avoided the "resource curse" that afflicted so many other natural resource-rich economies. It is true that manufacturing protection policies reduced the prosperity of primary production, but for farmers and graziers that was, at least to some extent, offset by the ban on iron ore exports between the late 1930s and early 1960s and a boom in wool prices in the early 1950s.

Latin American evolution is expressed, in the case of Brazil, in a transition from a clear agricultural backwardness to its current global leadership. According to Mueller and Mueller, in Chapter 15, until the early 1960s, frontier expansion was the main determinant of agricultural growth, but beginning in the early 1970s, modernisation accelerated substantially, and the expansion of the frontier assumed a subsidiary role. The authors argue that the initial process of modernisation up to the 1990s can be represented as a top-down technocratic policy imposing a series of reforms that sought to modernise the sector and remove the bottlenecks and inefficiencies that hindered agriculture and created obstacles for industry and the macroeconomy, which were the central objectives of the policymakers. This chapter shows how these interventions succeeded in creating a productive agribusiness sector, for example by investing heavily in technology adapted to Brazilian reality. But at the same time, the interventions also led to further distortions and inefficiencies in agriculture, as they were used as an instrument for generating foreign exchange, controlling inflation, and other subsidiary objectives. The final transformation into a major world agricultural producer only took place after the mid-1990s, once the country had inflation under control and had reformed political institutions, allowing a less interventionist policy, in which induced innovation could finally thrive.

As Velazco and Pinilla explain in Chapter 16, throughout its history, Peru, as a small open economy, has undergone cycles of crisis and recovery, usually linked to fluctuations in the international market. The Peruvian economy has always been an exporter of primary products and an importer of manufactured goods. Development strategy models have ranged from the diversification of primary exports, to import-substitution industrialisation, and the promotion of non-traditional exports, which is the current model. These strategies have determined the outcome for agriculture. The sector was an axis of accumulation for the economy in the context of the model of primary exports of agricultural products (cotton and sugar) and minerals. This situation changed radically in the late 1950s, when an import-substitution industrialisation process was encouraged. This marked a turning point, when the growth of agriculture became dependent on the expansion of industry. The evidence discussed, particularly the growth in agricultural labour productivity and the performance of TFP, seems to suggest another change in the 1990s, in how agriculture related to and connected with other economic sectors. The structural reforms of the 1990s, particularly the policies promoting the development of agro-industry, created favourable conditions for non-traditional export agriculture to expand and consolidate. This growth was led by the coastal region, thanks to its climate, the expansion of agricultural frontiers based on irrigation, proximity to the markets, and improvements in infrastructure.

The importance of frontier expansion in agricultural evolution is analysed by Willebald and Juambeltz in Chapter 17. The expansion of the Atlantic economy from the mid-nineteenth century up to WWI, the incorporation of new regions into the global economy, and the formation of markets for goods and factors on a world scale are three of the main features of the First Globalisation. The new settlement economies followed parallel paths based on similar dynamic relationships between waves of immigration, the marginalisation of native populations, European capital inflows, an abundance of land, free labour, socially-useful political institutions, and neo-European cultures. These "temperate economies" include a group of non-European countries which, at the beginning of the twentieth century, could be classified as developed: Argentina, Uruguay, and Chile in South America, Canada in North America, South Africa in Africa, and Australia and New Zealand in Oceania. However, in this characterisation, the South American Southern Cone countries were the "failures" in the settler club, with slower development paths and lower living standards. The authors focus on the incorporation of "new" land into production, from 1850 to 1950, which had consequences for structural change, income distribution, and the intensity of the use of production factors. Settler economies conformed to different modalities of land incorporation into production, and they faced different conditions that involved adopting extensive or intensive processes of expansion. Those settler economies that evolved intensively through the process of land frontier extension, applying labour as intensification factor, fell behind in the long-run performance and constituted the "impoverished cousins" of the club: Argentina, Chile, and Uruguay. Those countries where the land frontier expansion adopted a different pattern—probably based on capital intensification—consolidated as the rich countries of the club: Australia, Canada and New Zealand. South Africa shared features of both groups.

Alvarez Scanniello, in Chapter 18, illustrates those differences, with an in-depth analysis of the cases of New Zealand and Uruguay. He argues that the different economic performances reflect dissimilar growth patterns of physical productivity in livestock production and, especially, in the productivity of agrarian land. A particular issue was the different rates at which the two countries implemented technologies that improved the land factor. While in New Zealand the livestock system was based on transforming the soil and creating pasture land, in Uruguay livestock rearing was based on natural grassland with only a small proportion of artificially produced or improved pasture land. Uruguay had better natural conditions for livestock production, which became apparent in the nineteenth century, and, therefore, it had less incentive than New Zealand to develop technologies to improve the productivity of land devoted to livestock production. The interaction among institutions (land market regulation), public policy (subsidy and credit schemes to stimulate the intensification of livestock production), agrarian innovation systems, and the geographical context, all played a key role in the development of technological change.

4 Concluding Remarks

Agriculture has played a relevant role in the economic development processes of peripheral countries. But this has not been its only role and it has not had the same importance in all countries. The wide variety of possibilities in its contribution to economic development has depended on numerous factors, including the initial conditions of each country (factor endowments, both in quantity and quality; institutional quality; the degree of technological development; the weight of non-agricultural traditional activities; agro-climatic factors; market accessibility; etc.), the mode of entry into international markets, with its positive and negative impacts, the economic policies and development models implemented by each country and the type of industrialisation or modernisation process experienced.

For many countries, external markets have been highly significant for the expansion of their agricultural activities. A rapid expansion of exports has constituted, for some peripheral economies, an important growth engine, as in the case of Argentina, Australia, New Zealand or Uruguay. However, in other countries, despite the growth of exports, the resulting inducement for development has been very weak, as in the cases of Ghana or Peru until quite recently. This shows the importance of the linkages of the export sector with the rest of the economy. Inter-sectoral and inter-regional (as in the case of Indonesia) links are absolutely vital for the potentiality of an export-driven model to work and produce significant results in terms of increasing per capita incomes and economic development.

These linkages are also fundamental so that the growth of industry and services and the expansion of the domestic market can generate, in turn, relevant agricultural growth and modernisation.

Furthermore, income distribution and the existing degree of inequality can influence whether agricultural growth to generates a greater or lesser effect on the growth of the economy as a whole, due to their incidence on the creation of markets and their relevance in the contention and management of conflicts. The institutional matrix is undoubtedly paramount in this type of process.

In fact, institutions can help us to understand the development of agriculture and its capacity to generate growth in the economy as a whole, while taking into account its often predominant endogenous nature. That is, although the establishment of appropriate property rights regarding natural resources, their enforcement and the respect of the rule of law are fundamental for implementing the structural change, the institutions have often arisen as a result of the different dimensions of the economic system and particularly in response to technological progress (as in the case of Southeast Asia). Technology has been a fundamental factor, particularly during the second half of the twentieth century, for the modernisation of the agricultural sectors of peripheral countries. The different paces at which the innovations have been adopted have depended on a whole range of factors: resource endowments, investment in R&D by public institutions, economic policies and the successful entry into international markets. These factors have acted as facilitators of the process or challenges to overcome, giving rise to trial and error and learning processes. In this sense, the role of the State has had transcendental importance.

As well as providing financial and technical resources to enable agricultural growth, the State has often been targeted by the different power groups acting in the economy (see the case of South Africa) and, particularly, those most closely related to natural resources (farmland, water, minerals). As before, the resolution of these conflicts illustrates and explains an adequate or deficient agricultural performance.

This book highlights the diversity of the results arising from the different paths followed by the periphery countries in the different world regions:

- In the export era (first wave of globalisation), the economies of the settler countries (Argentina, Australia, Canada, New Zealand, Uruguay) experienced spectacular growth, largely based on the development of the agricultural export sector, with good knock-on effects on other activities. In the lead-up to WWI, they were among the economies with the highest per capita income, despite having lower levels of industrialisation and being exposed to relatively volatile international markets. The agricultural sector has continued to be important in the majority of these countries, although restricted in some of them, and its development has been based on the persistence of primary production in the economic and exporting structure. There are many examples of truncated structural changes in periphery economies, which are particularly prominent in Latin American and African cases.
- In general terms, in the first wave of globalisation, the boost derived from exports was significant, but in some countries the results were fairly poor (as was the case of exporting economies in Latin America, except in the Southern Cone or Southeast Asia, which did not change drastically). With respect to the plantation economies, a few of them captured the

majority of the benefits to be gained from exporting, with the predominance of logic of the enclave and low-transformation structures.

- Since the end of WWII, the role of the agricultural sector and its contribution to development dwindled. This can be explained by the inward-looking development policies, but also by the high level of protectionism of the developed countries. In the latter, the high productivity of agriculture, which enabled them to have a higher level of self-sufficiency, and their policies for supporting domestic production, affected the development of periphery.
- However, in the final decades of the twentieth century, the agricultural sector recovered its leading role. Some countries opened up to external markets and since then a second export era has been taking place (the majority of Latin American countries, Ghana and South Africa in Africa, Vietnam in Asia). There has been a change in their policies, a greater exposure to international markets, new options for specialising in non-traditional products and closer links between the exporting sectors and the rest of the economy.
- Technology plays a relevant role in the second half of the twentieth century. The green revolution and other innovations have increased agricultural output and productivity substantially, with cases such as Brazil, where the sector has experienced a process which some identify with an "industrialisation" of agriculture.
- The institutional factors and, especially, the ownership structure and a better management of natural resources have played a significant role. This is the case with Vietnam with the Mekong Delta or the end of the plantation era with the definitive predominance of the smallholders.
- The State is a key agent in the agricultural development. The State implements economic policies that can promote or restrict agriculture (or the sectors linked with it), creates specific programmes (of production, technical assistance, financial support, price support), and it is the field where interests conflicts are solved.

Finally, the book also contemplates the conceptual category used as an argumentative and analytical guide. The notion of world periphery is dynamic. The starting point of this book is identifying economies which, given the conditions prevailing in the international economic system of the second half of the nineteenth century, could be considered as being marginal to the world economic core, due to their position with respect to the technological frontier and their incidence in the relationships of global power. However, the very process of structural transformation—to which the agricultural and mining industry decisively contributed—has led to several economies of our sample losing (or starting to lose) their status as periphery economies and now being classified as core economies (while being fully aware that the core concept is also a dynamic notion). Economies of the "rich" periphery, such as Canada, Australia or New Zealand, can hardly be called peripheral economies nowadays, but there are also several peripheral regions that were definitively poor at the end of the nineteenth century which are on the path not only to losing this status, but to becoming leaders of a model that seems to accept several centres in its constitution; this is the case with China, India, Brazil and some Southeast Asian economies. Nowadays, the international economy is subject to transcendental changes and, as it happened in the second half of the nineteenth century, the world periphery is the protagonist of this global transformation.

Notes

1. The debate on the deterioration of the terms of trade of primary products has generated a large number of studies, most of which have concluded that this deterioration did not exist in the period indicated by Prebisch and Singer (at least until 1914), but has been very important since the First World War (WWI). The deterioration has been more marked in certain periods in the form of shocks (the inter-war years and the 1980s), without a return to the initial situation in any persistent and continuous way as predicted by those authors. See Prebisch (1950), Singer (1950), Grilli and Yang (1988), Hadass and Williamson (2003), Ocampo and Parra-Lancourt (2010) and Serrano and Pinilla (2011).
2. Latin American structuralism, characterised especially by the economic thought developed by the ECLAC, is one of the most important representatives of this theoretical conceptualisation.

3. 1870–1938. We consider the data presented in Federico (2004) referred to agricultural output, real index (1913 = 100) (Statistical Appendix, Table I) and "world" shares in (Table 6) regarding North Western Europe, Southern Europe, the USA and Japan as the "core" and the rest of countries as the "periphery". For this we deducted Japan from Asia and the USA from Western Settlement. For Japan, we used three series: Gross Domestic Product by Industry at Market Prices (1985–1940), Deflator Agriculture, Forestry and Fishery (1985–1940) and Value Added in Agriculture: 1934–1936 Prices (1874–1936) from the Long-Term Economic Statistics (LTES) Database. For the USA, we used three series: Farm Gross Product (Million Dollars, 1913 prices); Gross Farm Income (Million Dollars, 1913 prices), and Gross Farm Income (Million Dollars 1913 prices, chained) from the Historical Statistics of the United States, Millennial Edition Online.
4. 1950–2010. As Federico (2008), we consider information of Gross production in agriculture (2004–2006 = 100) from FAO statistical database from 1961 to 2010, and complement the previous—partial—data with Federico (2008)'s estimates for the 1950s. We select the same "Core" countries that for the period 1870–1938 y consider the rest of the countries as "Periphery". We elaborate weighted indices according to the shares that represented the Gross Production Values (current million US$) in 1991–1992.

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