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Uneven development and the
governance of agricultural
commodity booms: the case of
soybean in
South America

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Thesis submitted in partial fulfilment of the requirements for
the degree of
Doctor of Philosophy in Politics and International Studies

University of Warwick, Department of Politics and International Studies

September 2017

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Acknowledgments

While a doctoral project might be an individual endeavour, this thesis would not have been possible without the help and support of many people. I would like to thank first my supervisors, Ben Richardson and André Broome, not only for their extensive intellectual and professional advice, but also for their friendship and kindness throughout these years. André's invaluable insights and guidance have been greatly appreciated as I learned my way around academia; and I am very grateful to Ben, who not only was the first to encourage me to take on this challenge, but who has tirelessly read many drafts of the chapters presented here and discussed them with enthusiasm. I would also like to thank the University of Warwick, for providing me with the financial support to conduct this research, and to the Department of Politics and International Studies and the academic and administrative team.

As part of my PhD, I have been very fortunate to be involved in several projects and meet a lot of inspiring people. During my first year, the discussions and laughs shared with my fellow PhD colleagues Jacob, Chris, Lorenzo and Matt, were a great way to start this journey. The PhD community in PAIS and across campus has always been extremely supportive, providing equally intellectual insight and great fun when necessary. My thanks go to Javier, Antonio, Ana, Santiago, Sofia and all the other inhabitants of the different offices I have been part of during these years. Beyond Warwick, I was lucky enough to be involved in an exciting academic collective, and I would like to thank my colleagues in Alternautas for creating a great space for rich and insightful critical debate on development in Latin America and letting me be part of it. Especially, I would like to thank Ana Carballo and Maria Mancilla Garcia, for their friendship and inspiration.

Being far away from home has not been easy, but the support and encouragement of my family and friends have made the distance much shorter. Many thanks go to my sisters, Pia and Ceci, and my long-time friends:

Jose, Vicky, Caro, Nati, Pitu, Mavi, Mery and Mili, for always making me feel like I had never left, for reminding me to be proud of my achievements, and always adding lightness and a good laugh to my slight tendency to over-stress.

A few people in Warwick have been of special support in the last years. I would like to thank Mara Duer, for the mutual encouragement especially in the last stretch; Jenny Lander, for our many discussions and your incredible kindness; and Tereza Jermanova, Te-Anne Robles, and Aya Nassar, your friendship has been one of the best gifts of this project and you have made long days at the office incredibly enjoyable and full of happy memories.

Finally, I would not have been able to start this PhD without the support and encouragement of my parents. They have always pushed me to go further, to explore my capabilities beyond what I thought was possible, and supported me in everything I set out to do, even if it included having a great physical distance between us. Without your reassurance and help, I would not have begun this journey in the first place. And I could not have survived and finished it without my partner, Jack Copley. Not only for the extensive proofreading and intellectual insight and inspiration, but your endless generosity, care, and reassurance throughout this research have made me stronger and my life much happier.

While this research has received invaluable insights from the people mentioned here, the mistakes are all my own.

Declaration

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research for the degree of PhD in Politics and International Studies at the University of Warwick. I confirm that the submitted work contains neither material from any prior theses nor any material that has already been published.

Abstract

Issues related to food security have long been closely tied to the dynamics of the global political economy. The latest price peak experienced in the commodities market (2007-2008) greatly affected agricultural commodities, creating significant imbalances in production and consumption. This research develops an interdisciplinary approach that links together issues of natural resource governance, development, and transformations in the global political economy to explore the ways in which countries of South America govern commodity booms. In other words, this thesis examines how these global dynamics affect the ways in which food-producing states manage the wealth produced during commodity booms and how this wealth is subsequently distributed among different sectors of society.

In South America, the recent commodity boom has led to an expansion of primary production oriented towards export markets, creating imbalances in their domestic productive structures. This thesis focuses on the production and trade of soybean in three countries of the Southern Cone: Argentina, Brazil, and Paraguay. Following the boom, soybean production has come to dominate the agricultural sectors and overall exports of these countries, with some authors going as far as to dub this rapidly expanding industry the 'Soybean Republic'. This research engages with cutting edge debates in International Political Economy, with a conceptual focus that draws from human geography and brings in space as both contingent and constituted by the changing productive and trade dynamics. By looking at the development of fixed infrastructure and dynamics of capital mobility, this research explores the patterns of uneven development that emerge from the expansion of the soybean complex, as well as the capacity of the Argentine, Brazilian, and Paraguayan states to govern the distribution of the profits emanating from it.

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List of Abbreviations

ABCDs	ADM, Bunge, Cargill, Louis Dreyfus
ARS	Argentine Peso
BRL	Brazilian Real
CAF	Corporación Andina de Fomento (Development Bank of Latin America)
CBOT	Chicago Board of Trade
CIF	Commodity Index Funds
CME	Chicago Market Exchange
CPR	Cedula do Produto Rural (Note of Rural Product)
ECLAC	Economic Commission for Latin America and the Caribbean
EMBRAPA	Empresa Brasileira de Pesquisa Agropecuaria (Brazilian Enterprise of Agricultural Research)
EPZs	Export Processing Zones
EU	European Union
FAO	United Nation's Food and Agriculture Organisation
FDI	Foreign Direct Investment
FIA	Futures Industry Association
FOB	Free-on-Board price
FTAA	Free Trade Agreement of the Americas
GDP	Gross Domestic Product
GM	Genetically Modified organism
IADB	Inter-American Development Bank
IICA	Inter-American Institute for Cooperation in Agriculture
IFIs	International Financial Institutions
IIRSA	Iniciativa para la Integración de la Infraestructura Regional Suramericana (Initiative for the Integration of the Regional Infrastructure of South America)
IMF	International Monetary Fund
INTA	Instituto Nacional de Tecnología Agropecuaria (National Institute of Agricultural Technology)

ISI	Import Substitution Industries
LCA	Letra Do Credito Do Agronegocio (Credit Bill of Agribusiness)
MATBA	Mercado a Término de Buenos Aires (Buenos Aires Exchange Market)
MERCOSUR	Mercado Común del Sur (Southern Common Market)
MHDI	Municipal Human Development Index
NGOs	Non-Governmental Organisations
OECD	Organisation for Economic Co-operation and Development
OTC	Over the Counter
ROFEX	Mercado a Término de Rosario (Rosario Futures Exchange)
RR	Round-up Ready soybean seed
SAPs	Structural Adjustment Programs
SNCR	Sistema Nacional de Credito Rural (National System for Rural Credit)
UD	Uneven Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
US	United States
USDA	United States' Department of Agriculture
VAT	Value Added Tax

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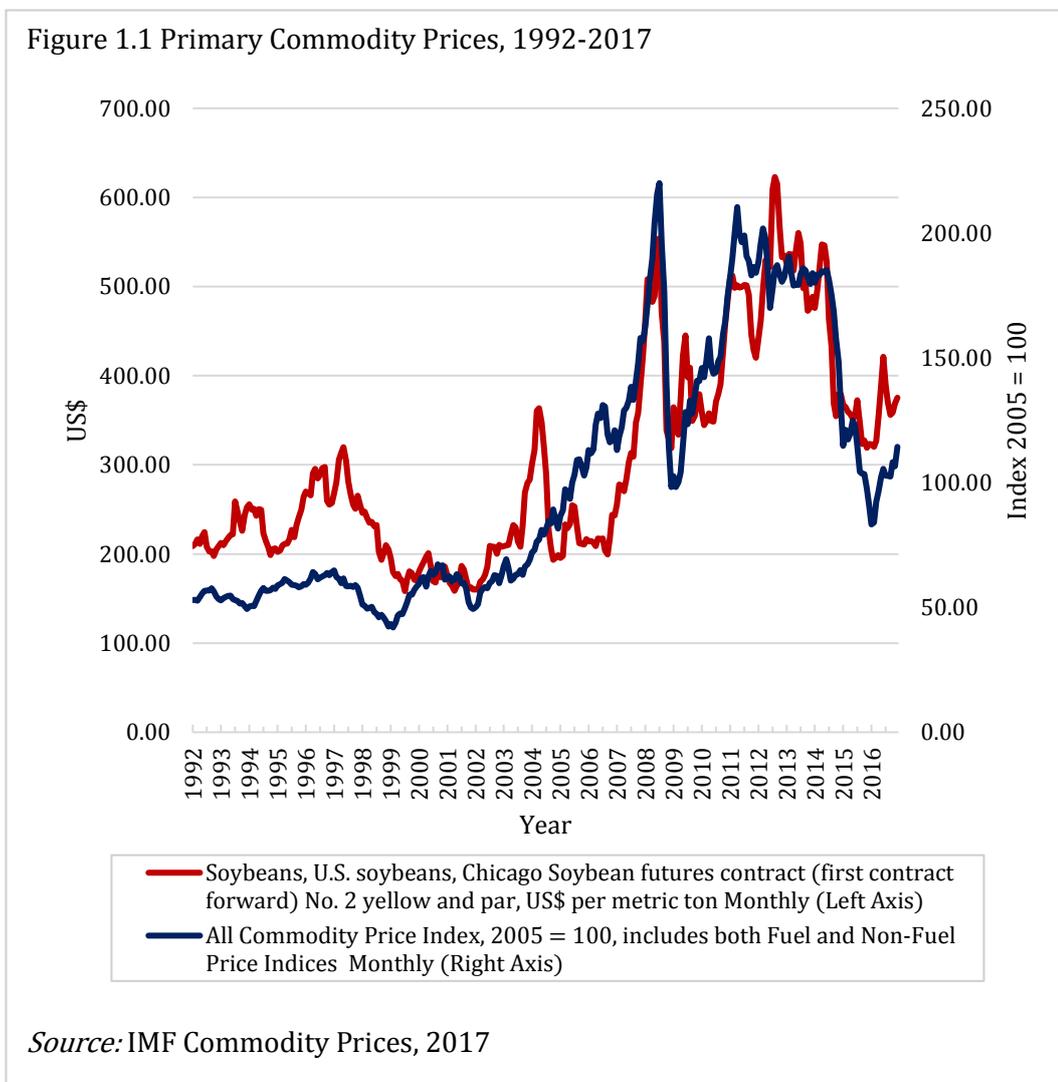
In 2008, then President of Argentina, Cristina Fernandez de Kirchner, commented that soybean is just 'a weed that grows on the side of the road' (La Nacion, 2008). That same year, this 'weed' provided Kirchner's government with over US\$ 9 billion in fiscal contribution, almost 9% of the total tax revenue (Cohan, 2012: 79). Although treated dismissively by the President, soybean had become a crucial component of the Argentine economy, and of other economies in the region. In Brazil, the impeachment of Dilma Rousseff in September 2016 led to her replacement by vice-president Michel Temer, who appointed Blairo Maggi, known as the 'Soybean King', as Minister of Agriculture, Livestock and Provision. Maggi is a former governor of the state of Mato Grosso, and one of the founders and main shareholders of Grupo Amaggi, which is amongst the largest agribusiness companies in Brazil and dedicated mainly to the production and trade of soybean. These examples hint at the central role of soybean in the political struggles in this region, linked to the significant revenues generated by this agricultural commodity. This thesis seeks to explore this issue by developing a spatial political economy approach to the governance of commodity booms.

In addition to its importance for South America, soybean has emerged globally as one of the fastest growing sectors in agricultural trade, with export values reaching almost US\$ 100 billion in 2013 (FAOSTAT, 2017). As a rapidly expanding crop with volatile and relatively high international prices, soybean has become a very attractive investment for global capital. This global surge in soybean production and trade is not an isolated phenomenon, but one that is intimately connected to transformations in the global food system. An increase in demand pushed up commodity prices in 2001-2002 and reached a peak in 2007-2008. During this commodity boom, soybean emerged as one of the most important assets, as its price rose even higher than wheat and maize – the

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other cereals that experienced significant price peaks in this period (IMF Commodity Prices, 2017). As shown in Figure 1.1, between 2004 and 2008, the price of soybean increased by almost 65%, following the movements of the All Commodity Price Index.

What is considered as a source of growth for soybean producers and traders can also be a source of distress for food buyers. The peak in the price of soybean and other cereals experienced in 2007-2008 triggered a global food crisis that affected millions of people (Clapp and Helleiner, 2012). Yet soybean is also a globally significant commodity beyond its relevance for issues of food



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security, for two key reasons. Firstly, the fact that soybean is a *flex crop* – that is, a crop that has multiple uses and can be switched from one supply chain to another with relative ease – makes it an asset of increasing importance for diverse economic sectors. While its main use is still for human consumption and as animal feed for the poultry and cattle industries, soybean oil has been systematically incorporated into biofuel mixes, hence becoming a growing component of the energy sector. Moreover, recent research has increased the possibilities for the use of soybean as an input in industrial processes to produce rubber, for example. Linked to these different uses, soybean has also become increasingly attractive as a profitable financial asset. For instance, Zurich Private Capital declares on its website that ‘for the next few years the soybean market shows positive signs of outperforming oil and other more well-known commodities returns beginning from 12% comfortably’ (2017), and in June 2017, the Financial Times described soybean as the ‘crop of the century’ (Meyer, Schipani and Hancock, 2017). Hence, soybean has expanded beyond its use for direct food consumption and penetrated a variety of industries and value chains, both physical and financial.

Secondly, and as a consequence of the oilseed’s presence in financial markets, the boom in soy prices should not be understood as an incidental or one-off phenomenon. Rather, as Blyth (2008) suggests, cycles of boom and bust in the global economy are interlinked processes that reflect capital’s search for profitability. The ‘unholy marriage of unlimited liquidity and limited asset classes’ (2008: 388) creates price bubbles and consequently the expansion of economies associated to these assets, which inevitably decline or burst. In this sense, the expansion of soybean as part of the commodity boom is inextricably linked to the dynamics of the global political economy and to current – and future – cycles of booms and busts. From the trading of soybean derivatives on financial markets to the tax structures created to govern the revenues generated, this ‘weed’ is at the heart of a billion dollar economy and thus has enormous impacts across a variety of sectors and scales.

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Debates in International Political Economy (IPE) have generally focused on individual booms – equities, housing, and commodities – and analysed the specific features of the processes of capital accumulation associated with each of these assets (Blyth, 2008). In the case of commodity booms, literature on natural resource endowment has usually pointed out how states are capable – or not – of managing the disruptive dynamics created by the inflow of large volumes of capital that follow a commodity price peak. Emphasis is largely placed on state management of these developments *after* they occur, that is, once the global boom has begun to impact upon the national economy. Resource curse literature in particular has, to a great extent, explored the different mechanisms through which this resource abundance has a negative impact upon national economies and domestic political systems, thus privileging this national territory as the main scale of analysis (see Ross, 1999; Rosser, 2006).

Such perspectives have a number of shortcomings. These analyses consider the state as a *passive* actor that is affected by global processes of capital movement, instead of understanding state-market relations as constitutive of such processes. Through the construction of physical and institutional infrastructure, or the design of macroeconomic policy, the state not only reacts to commodity booms but facilitates them and propels their expansion. States and markets, in this sense, interact and co-constitute one another in the context of commodity booms (see Underhill, 2000). Moreover, these approaches are underpinned by a privileging of the nation-state as the dominant territorial unit of politico-economic organisation. However, the permeating capacity of capital to forge dynamics at the local, regional, national and global level leads us to question this unidimensional focus. In other words, if we analyse these phenomena from a purely national perspective, we run the risk of overlooking the multiplicity of scales at which the dynamic processes of commodity booms take place.

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Analyses of regionalism have attempted to bridge this national versus global fetishism. Authors have, on the one hand, examined how formal intergovernmental regional arrangements have proliferated as new frameworks for the organisation of economy activity (Jessop, 2003; Fawcett and Hurrell, 1995; Macleod, 2001). From the longstanding – and faltering – Mercosur project, to new arrangements such as the Trans-Pacific Partnership, regional agreements have emerged as attempts to further integrate economic activities and promote trade and investment among nation-states. On the other hand, and more specific to South American processes, some authors have claimed that the dynamics created by soybean expansion in the Southern Cone have given birth to a cross-border region devoted to soybean production. From the ‘Soybean Republic’ (Turzi, 2011) to ‘Soylandia’ (Pearce, 2012) to the ‘United Republic of Soybean’ (Rulli, 2007), these labels aim to highlight the complex networks of production, processing and distribution that have developed across the borders of South America (Turzi, 2011: 61). These informal processes have been studied not only by academics, but by private sector actors too – from civil society to businesses. Examples of this are the ‘Group of Producing Countries from the South’ – Grupo de Países Productores del Sur (GPS) – an initiative that gathers think tanks and producer’s associations from Argentina, Brazil, Paraguay and Uruguay; and, as shown in Figure 1.2, the use by agribusiness company Syngenta of the term ‘United Republic of Soybean’ to refer to the area covered by Argentina, Brazil, Paraguay, Uruguay and Bolivia.

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Figure 1.2 Advertisement Syngenta: 'United Republic of Soybean'



Source: Advertisement published in Argentine newspapers La Nacion and Clarin in 2003, reproduced by Grain, 2003.

While these regional studies appear to frame in innovative ways the increasing expansion of the soybean complex, they do not go far enough in broadening the spatial horizon of political economy analysis. In place of national- or global-centric analyses, these approaches simply insert the regional as additional scale of activity, without fully embracing the concept of multi-scalarity. One of the original contributions of this thesis is to escape this limited spatial methodology by conceptualising scales not as natural, rigid levels of politico-economic activity, but as social and relative spaces that are continually produced and reproduced by political economy processes. In addition, this thesis intends to understand how multi-scalar dynamics of capital accumulation emerge while at the same time are limited by national borders and state strategies. Capital in turn makes these borders more permeable and adapts to particular national dynamics. In this manner, this thesis both relativises the pre-eminence of the state while also challenging its supposed disappearance. This thesis will thus make a case for a *spatial*/political economy of commodity booms that brings in the national state as a constitutive element of and active participant in these processes.

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With these puzzles and considerations in mind, the main research question of this thesis is:

How do states govern the creation and distribution of wealth during commodity booms?

This is further explored through the following set of sub-questions:

- *What are the spatial dynamics involved in the creation of wealth during commodity booms?*
- *How does capital create geographies for the production of wealth beyond the national economic space?*
- *How – and to what extent - do national states design policies to effectively distribute wealth created through commodity booms?*

To answer these questions this thesis will analyse the case of soybean in Argentina, Brazil and Paraguay. In order to understand the spatial dynamics and the geographies of capitalism created during commodity booms, this case is studied through the theoretical lens provided by the concept of *uneven development*. This concept, largely developed by Neil Smith (2010), brings together geography and political economy to understand the changing geographies of capitalism and the spatial arrangements that emerge from capitalist relations (2010: 4). The approach developed by Smith looks at patterns of uneven development and the restructuring of geographical space not as ‘natural’ or ‘given’ results of external forces, but as expressions of the inherent contradictions of capitalism. Looking at the expansion of soybean in the aforementioned countries through the framework of uneven development offers a unique insight into how the geographical transformations in the region are linked to multi-scalar processes of political economy.

By employing this framework, this thesis utilises a dual conception of commodity. On the one hand, this work engages with the notion of ‘commodity’

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in the broad sense, as an exchangeable good – as for example in debates about commodity booms, commodity chains, primary commodities, etc. On the other hand, Smith's framework understands the commodity as the embodiment of a specific set of social relations, namely capitalist relations. This latter conceptualisation seeks to de-naturalise the unequal and uneven development of capitalist geography, in a similar fashion to Marx's attempt to de-fetishise the commodity (Albritton, 2012).

The next section will further explain the case selection and the methodology employed to conduct this research. Next, this introduction will outline the main argument elaborated in this thesis and its original contribution. Finally, I will present and describe the structure of this thesis.

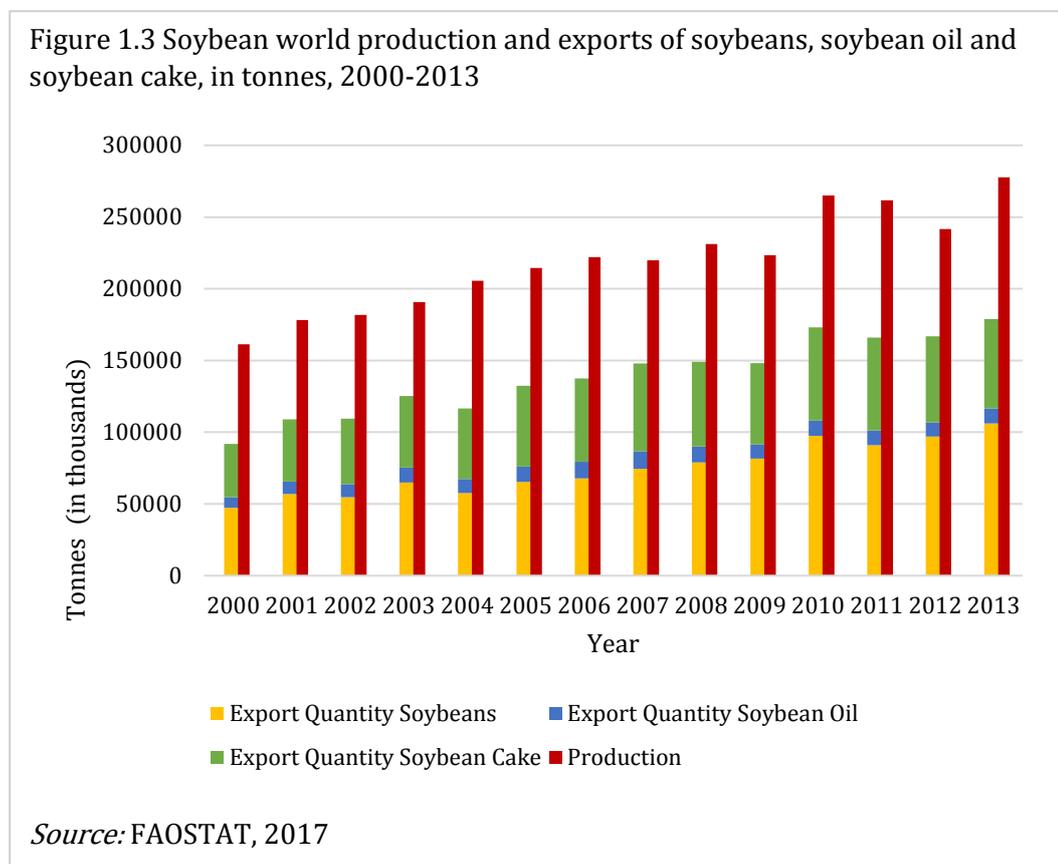
Cases and methodological approach

Case selection and context

The significance of the soybean economy globally, and more specifically its role in the transformations of South American geography and political economy, make this an extremely relevant case to understand the governance of commodity booms. Originally an Asian crop, soybean was introduced to the Americas at the beginning of the 20th century (USDA ERS, 2017; Dros 2004: 9). As a rich source of vegetable protein, soybean has many uses. Soybean can be destined for human consumption, but most of the produced oilseed is fractioned and separated into oil and meal protein (also referred to as soybean cake). The oil fraction of soy is processed into vegetable oil used both for human consumption and for biodiesel, while the meal is used for livestock feedstuff and other flours or protein concentrates. Only in the 1990s did the crop begin to expand and gain prominence as an export commodity (2004: 9). Between 1990 and 2014 there was a three-fold increase in the global

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production of soybean (see Figure 1.3), which translated into a growth in value from US\$ 26 billion¹ to over US\$ 67.5 billion (FAOSTAT, 2017).



Production of soybean is highly concentrated in the American continent. Global production is dominated by the US, Brazil and Argentina, which produce more than 75% of the world's output. India, Paraguay and China follow in production volumes, resulting in a concentration of 90% of global production in these six countries. According to the OECD-FAO (2013), production of oilseeds² was expected to increase by 26% from 2013 to 2022, through a combination of re-distribution of land use in favour of these commodities and increased yield. This will be driven by demand for biofuels

¹ Gross Production Value in constant 2004-2006 million US\$.

² According to OECD/FAO Glossary, oilseeds include rapeseed (canola), soybean, sunflower seed, peanuts and cotton seed. However, none of these crops – except soybean – appear within the top twenty most produced commodities, indicating that soybeans dominate oilseeds production (OECD/FAO, 2013).

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and increased purchasing power in developing countries that drives a higher demand for meat and thus animal feed (OECD/FAO 2013: 141; Dros 2004: 8). This upward trend in demand also fuels a tendency for oilseed prices to increase in the medium term, consolidating the profitability of the crop (OECD/FAO 2013: 141).

In terms of value, soybean is one of the most prominent commodities in world trade, with more than 100 million tonnes exported at almost US\$ 60 billion in 2013, more than the export value of other common use cereals and flex crops like wheat (US\$49 billion), maize (US\$ 34 billion) and palm oil (US\$ 33 billion) (FAOSTAT, 2017). Exports of the crop are clearly dominated by the Americas, as the top six export countries are the US, Brazil, Argentina, Paraguay, Canada and Uruguay. This trend is expected to continue, as OECD/FAO predict the continent will provide 93% of global exports in oilseeds by 2022 (OECD/FAO, 2013: 140). The main soy importers are China and the European Union (EU). In 2014, China imported 69 million tons of raw soybean and 1.4 million tons in soybean oil, while the EU received over 12 million tons of soybean and 19 million tons of soybean meal in the same period (Foreign Agricultural Service/USDA, 2014). For that year, the total value of soybean trade – including oil, meal and beans – was US\$ 109 billion (Chatham House, 2017).

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When adverse weather conditions led to a decrease in soybean production in the US in 2007, the South American region emerged as the 'largest production pole' (OAS, 2009: 68). The 'soybean heart' of the region is found throughout the borders of Brazil, Paraguay and Argentina, three neighbouring countries that share areas with similar climatic and physical conditions (see Figure 1.4). Together these three countries surpass the US' levels of production, export quantities and planted surface; and yield levels are even higher in Paraguay. Most importantly, the region is seen by some as still having potential for further expansion of the agricultural frontier, as well as water resources, that make it even more attractive for the production of the oilseed (Regúnaga, 2013). Not only are these countries important for the soybean sector globally, but soybean is increasingly relevant for these economies, as it is steadily becoming an essential part of their GDPs and balance of payments.



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In just ten years – between 2000 and 2010 – the planted area of soybean increased by over 40% in Argentina and Brazil, and a remarkable 95% in Paraguay. This now equates to an area about the size of Spain, entirely dedicated to the soybean mono-cropping, meaning the continuous production of the same crop on the same land, without rotation.³ Expansion in the planted surface and increased yield contributed to a 100% growth in production in that same decade. This rapid increase in production was possible by both expanding the arable land in the region, and by converting land from other crops into soybean (Giancola et al. 2009: 32).

Several elements have contributed to the rapid expansion of soybean production. Mariano Turzi (2011) points to the emergence of a ‘technological package’ that contributed to the perception of the crop as a safe investment. This package is composed by Genetically Modified (GM) seeds, agrochemicals, and no-till or direct sowing⁴ (2011: 61). For soybean the dominant ‘package’ has been that offered by transnational agribusiness company Monsanto, which sells the soybean variety *Round-up Ready* (RR), which is resistant to glyphosate, a powerful weed killer. Approval of GM crops in these countries has been key in initiating the rapid spread of the crop. Argentina was the first one to do so in 1996, followed by Brazil in 2002, after a difficult struggle between the Ministry of Agriculture on the one side, and social movements and the Ministry of Environment on the other (interview GV AGRO, 2014). Paraguay licensed GM crops in 2004.⁵ After all countries had legally accepted

³ Calculation based on conversion of hectares into square kilometers. While soybean production occupies 50 million hectares, which translates into 500,000 sq. km., the total surface area of Spain is 505,992 sq. km.

⁴ No-till farming is a method of agricultural production without or with minimal tilling, in other words, without disturbing the soil. It involves covering the soil with stubble (stalks or other remainders of previous crops) and its continuous implementation improves soil conditions, reducing erosion and improving the water management capacities of the soil (Regúnaga, 2013: 87)

⁵ Even if GM seeds were not officially approved by the Brazilian and Paraguayan government until later, GM varieties of soybean had been growing in these countries. This was due to contraband of these seeds from Argentina, where the absence of royalty payments made easier for farmers to sell what was known as the ‘white bag’, an additional bag of seeds from the harvest to be used as seed input for the following season. These were informally known as

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GM varieties, they spread very quickly and today dominate agricultural production in the region.

Most importantly, soybean became an attractive investment with the sustained increase in its international price since 2002, which peaked in 2008. The combination of low costs, high yield, and high prices made soybean a safe and profitable investment for farmers and agribusiness companies. This conjuncture of structural and contextual factors created the conditions for transformations in the mode of production in the region as well as the characteristics of the actors involved. Many of these transformations were part of a long process of consolidation of the industrial agriculture model that began to be adopted globally between the 1930s and 1980s (Clapp, 2012: 11). The development of technological packages such as the one mentioned above, as well as the extensive use of machinery, large-scale production, monocropping and the processing of agricultural goods into industrial inputs are all elements that create significant distance between industrial agriculture and what Norma Giarracca calls the 'processes of food', referring to more traditional forms of agriculture that are based on natural processes and organic cycles (Giarracca, 2012: 201).

The expansion of soybean production in Argentina, Brazil, and Paraguay is clearly inscribed in this model. A number of institutions, industries, and services linked to the crop's value chain have developed in these countries to accompany its growth. These include the emergence of companies and government agencies dedicated to research in biotechnology for seed and agrochemical developments; industrial and logistical capacity for soybean processing and trade; and a number of governmental and civil society institutions, including universities, producer's unions, and market exchanges that support and enhance the expansion of this economic activity. As a result, these countries have seen the emergence of a 'soybean complex', an inter-

'soja Maradona', in reference to Argentine football player Diego Maradona (Ezquerro-Cañete, 2016).

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connected group of actors, institutions, and activities linked to the production, processing, and trade of the oilseed.

Literature on Global Value Chains (GVC) and Global Commodity Chains (GCC) provide a framework to analyse the links and coordination existing between different stages of a product's value-added process (Gereffi et al., 2005). Although this approach is valuable in understanding different actors' strategies in global processes of production, it focuses on intra-firm governance, rather than market governance and state-market relations, as this thesis intends to study. Moreover, these analyses propose an emphasis on privatised wealth in the form of firm profit. This thesis chooses instead to follow research that explores different forms of wealth created in global chains (see Seabrooke and Wigan, 2017) and the distribution of socialised wealth, for example via fiscal policies. An additional distinction between this thesis and the value chains literature, is that this thesis focuses on the soybean sector as a complex, in order to better reflect on how the contradictory tendencies of global capital are expressed spatially in the region and their impact on states' capacity for its governance.

The consolidation of industrial agriculture in these countries occurred in harmony with the expansion of the soybean complex. Perhaps one of the most telling expressions of the dominance of this production model is the re-naming of the Argentine Ministry of Agriculture, now called 'Ministry of Agro-industry' (Poder Ejecutivo Nacional, 2015). Nevertheless, while they share certain common dynamics and temporal developments, the countries analysed in this thesis have experienced the expansion of the soybean complex in different ways.

In Argentina, as was previously mentioned, the early approval of GM seeds meant that soybean became a growth vector for the agricultural economy earlier than its neighbours. Initially soybean was used in a rotation system, as the crop adds nitrogen to the soil. After the crisis in 2001, Argentine

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agricultural producers – heavily indebted after a decade of uncompetitive exports due to the system of parity with the dollar – managed to liquidate their debts, thus making them more financially sound. Parallel to this, agribusiness had experienced a ‘technological modernisation’ in its production methods, namely due to the emergence of the figure of the ‘contractor’, a person offering their services for harvest or fumigation (the spread of pesticides or other agrochemicals to prevent insects harming crops) (Piñeiro and Villareal, 2005). Additionally, deregulation during the 1990s facilitated the increase of short-term farming through leasing. Flexibility in rent conditions promoted lease contracts only for the duration of one productive cycle. This also encouraged large-scale farming while the property structure of the country maintained the existence of medium-size farms. While the size of properties remained similar, producers were able to rent a number of contiguous properties, hence effectively producing at a large scale (see Chapter 5). Finally, the high profitability of soybean not only incentivised intensive farming and monocropping in the region of the *Pampas*, the traditional farming and cattle area, but also promoted the expansion of the soybean frontier towards the North-East and North-West. In those areas, deforestation had enabled the incorporation of new and cheap arable land. This resulted in larger properties and hence a greater concentration of land ownership within agriculture.

Brazil’s agricultural production has been historically characterised by the pre-eminence of coffee and sugar cane, two products that remain very important sectors in the economy. Soybean was introduced by Japanese migrants who would plant it for their own consumption during the early 20th century, but it began to be produced on a greater scale during the 1950s and 1960s, particularly in the state of Rio Grande do Sul, in the South of the country (Schlesinger, 2013; Oliveira and Schneider, 2016). Production soared towards the end of the 1990s, mainly through the significant movement of farmers from the Southern states – such as Rio Grande do Sul – towards the Centre and Centre-West of the country, in the biome known as *Cerrado*. Southern farmers

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migrated towards this area in search of larger properties. The value of their farms would allow them to buy more extensive properties in the states of the Centre-West, hence greatly increasing their production. This provoked a double transformation in the spatial distribution of soybean, both in terms of its geographical location and in the volume of production (Schlesinger and Noronha, 2006: 21). This migration process and the expansion of the soybean frontier created a structure of soybean production organised in very large properties that in turn reflect the emergence of a very powerful soybean agribusiness sector. One of the most prominent examples of this is the previously mentioned Blairo Maggi, known as 'the king of soybean' and current Minister of Agriculture of Brazil.

In Paraguay, the expansion of soybean production has gone hand in hand with the increasing presence of foreign farmers, chiefly Brazilian but also German and Japanese settlers, during the 1970s (Ortega, 2015). The most drastic growth of the oilseed, however, came in the 1990s, triggered by two factors: the permeability of the border that allowed the unlicensed entrance of GM soy coming from Argentina; and the influx of investors from Brazil in search of cheaper lands, motivated by the modernisation of Brazilian agriculture (Ezquerro-Cañete, 2016; Ortega, 2015). This provoked a movement of soy from West to East, and from the late 1990s throughout 2000s, the harvested surface of soy advanced rapidly and in large extensions. As a result, there was an increase in land concentration in Paraguay, a very strong presence of Brazilian farmers – also known as *Brasiguayos* – and rising levels of poverty fuelled by the displacement of peasants and subsistence farmers from the countryside to the urban areas (Ezquerro-Cañete, 2016; interview, CAF).

It is worth noting at this point that the three countries studied in this research can be situated within different regional spaces: South America, the Southern Cone, and the Rio de la Plata basin. The first characterisation is easily identified, as it indicates the location of these countries in the sub-continent of

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South America. This area can be characterised by its shared history and intellectual traditions, and to a certain extent by language, as well as by the constitution of UNASUR (Union of South American Nations), a regional organisation seeking to develop a ‘deeply political badge of identity’ (Riggirozzi and Grugel, 2015: 782). The Southern Cone refers to those countries on the southern areas of the continent, namely beneath and around the Tropic of Capricorn. This includes Argentina, Chile, Uruguay, Brazil, Paraguay, and sometimes Bolivia. The relevance of this categorisation in political economy terms is given mainly by the existence of the Mercosur regional bloc, composed by Argentina, Brazil, Uruguay and Paraguay, as well as Venezuela. The countries analysed here are thus integrated through this trade agreement, and are members of a number of cooperation institutions. Finally, the three countries analysed here are located on the Rio de la Plata Basin, the most extensive fluvial way in Latin America. The basin is composed by the rivers Paraná, Paraguay, Uruguay, and La Plata, covering a territory equivalent to a third of the European continent, and is one of the largest water reservoirs on Earth (FONPLATA, 2017). The soybean complex has expanded over this vast source of natural resources, transforming it into a key pillar of its geography.

The way these three spatial configurations are defined can provide different lenses to explore the impacts of the soybean complex. The use of ‘South America’ offers a hemispheric perspective on the role of the region within the global economy, as well as the context in which regional governance and development is being debated (Riggirozzi, 2017). The ‘Southern Cone’ shifts our attention to the political economy of trade and economic integration, as well as to mechanisms of cooperation between the countries involved. The ‘Rio de la Plata Basin’ provides a more ecological lens, highlighting the role of nature and its transformation in the process of expansion of the soybean complex.

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Overall, the three cases mentioned share several characteristics. The growth and consolidation of soybean occurred at a similar pace, and more importantly, the processes underpinning the evolution of this crop cut across the region. The advancement of this oilseed transformed the productive and property structures in these countries by consolidating a mechanised agriculture linked to a GM-based technological package, and by favouring increasing concentration of land in larger properties for production. Finally, in all three countries the increase in soybean production was the main driver of a significant expansion of the commodity frontier, achieved by incorporating land, partly through what proponents of the model have termed the ‘de-vegetation’ of otherwise unused land (interview UGP(b), 2014), which critics have described as deforestation practices (Greenpeace, 2006).

Methods and data collection

The principal aim of this project is to understand the creation and distribution of wealth during commodity booms and states’ capacities to govern these dynamics. This thesis develops a qualitative analysis, supported by descriptive statistics, of the soybean complex in South America in order to unpack the dynamics underpinning the political economy of uneven development in industrial agriculture.

The research design of this thesis aims to reconcile the study of the creation of wealth without falling into the ‘territorial trap’ identified by Agnew (1994) – which will be discussed in Chapter 3 – while at the same time examining the role of the state in its distribution. In other words, this thesis strives to, on one hand, unpack the complex multi-scalar and cross-border dynamics characterising this commodity boom; and, on the other, analyse the strategies pursued by the different states involved in governing this economic complex.

To resolve this dilemma, this thesis uses a mixed-methods approach. The first part of this thesis, which largely explores wealth creation in the soybean complex, will consider the spatio-temporal matrix of the soybean complex;

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that is, not as a comparative study of how this productive sector developed within the borders of each country, but rather as a cross-border phenomenon that has rapidly expanded over the last two decades. The role of the state is analysed, but as another actor in the complex mesh of interactions that have enabled the expansion of soybean in the region. In this sense, as case studies do, the first part of the thesis aims to understand in more depth the complexities of the soybean spatial and political economic structure that have transformed it into one of the most profitable sectors in the global political economy.

In order to do so, this thesis focuses on two variables, namely the development of fixed capital and the simultaneous mobility of capital. As will be developed in Chapter 3, at the centre of the process of uneven development is capitalism's contradiction between fixity and mobility, namely the simultaneous need for a built environment to facilitate production, circulation, and consumption, and the need for capital to have the capacity to move quickly from one place or asset to another in search of higher profit rates. These processes are studied through an analysis of physical infrastructure for transport in the soybean complex (Chapter 4), and the financialisation of production and trade in industrial agriculture (Chapter 5).

The second part of this thesis develops a comparative approach. As the focus of the analysis is centred on the state, this part of the thesis aims to understand the different strategies deployed by the states of Argentina, Brazil, and Paraguay to govern the soybean sector, either through limiting or enhancing the movement of capital. While understanding the patterns and processes of soybean production and trade as a case study is useful to comprehend the cross-border dynamics of capital in this sector, a country-based analysis will allow us to investigate individual states in a more sustained manner and then compare the variations in strategies to govern the soybean commodity boom. In this sense, 'comparison and case study can constitute mutually reinforcing and complementary undertakings' (Clift, 2014: 300) and more importantly, it

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allows us to highlight the continuing relevance of the nation-state while also avoiding the territorial trap.

The purpose of this section of the thesis is to explore different state capacities and strategies to govern commodity booms, specifically the soybean boom, in countries dominated by industrial agriculture. In this sense, while there is a comparative dimension to the analysis, it is also important to situate each country within its own socio-political and economic context, as well as to situate them within the regional soybean complex. States' governance of the soybean boom and their capacity for redistribution is analysed by looking first at fiscal policy, and second at the politics of currency management. These two factors, taxation and exchange rates, have an impact on the distribution of resources across national economies, while also providing an insight into the state modalities of insertion in the global political economy. In this sense, this research follows a method of concomitant variation (Moses and Knutsen, 2007: 109), focusing on the variations in the factors mentioned above and identifying different *varieties of resource governance* in the South American soybean complex.

The selection of the four factors mentioned above – physical infrastructure, financial mechanisms, fiscal policy, and exchange rate policy – responds to the theoretical framework and research question of the thesis, as they highlight the importance of spatial awareness and the constitution of new economic spaces. As they are analysed together as aspects of an intertwined dynamic, their study demonstrates the contradictions inherent to capital accumulation in industrial agriculture and the patterns of uneven development resulting from them. In debates surrounding industrial agriculture, most academic attention is usually devoted to the study of policies linked to trade, land, agriculture, and energy. Notwithstanding the importance of these, this thesis chooses to highlight elements that have been underexplored by the existing literature, and which were singled out during interviews by several government officials and representatives of different sectors of the agro-

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industry as central to the expansion and consolidation of the soybean complex, as well as to its future.

Data for the analysis was collected from three key sources: semi-structured elite interviews, governmental and international statistical data, and secondary sources.

Elite interviews: Between July and December 2014, I conducted 54 interviews in Argentina, Brazil, Paraguay, and Uruguay.⁶ These were semi-structured interviews with mainly three groups of actors: former and current civil servants and cabinet members from different Ministries in charge of policies linked to the agricultural sector, namely the Ministries of Economy, and Agriculture and Livestock; members of unions or associations of agricultural production and employees or officials from agribusiness companies, both domestic and transnational; and specialists, academics, and members of think tanks and international organisations. This selection of interviewees was useful in building an analysis of the different processes in place from the perspective of the private sector, the state, and the considerations of the third-sector or civil society, through the lens of specialists. A complete and detailed list of interviewees can be found in Appendix 1.

After a few initial contacts, the sample of interviewees was built based on a process of snowballing. The interviews were semi-structured, as the aim was to let the interviewees speak extensively and freely. While the first interviews were more exploratory, the interview questions would be modified progressively to access more detail of the processes described. This was particularly important to identify the commonalities and specificities of each

⁶ Soybean production is increasingly expanding in Uruguay, and many actors from neighbouring countries, especially from Argentina, have been key to this process. While the interviews conducted in Uruguay were helpful in complementing the cross-border and continuously changing nature of the soybean complex, given the time and space constraints of this project an in-depth analysis of this case was not included in the scope of this thesis.

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country studied. The data accessed through the interviews was later triangulated with statistical and secondary sources.

Statistical data: This thesis has also drew from statistical information on levels of production, trade, and other economic indicators to support the description and analysis of the case and triangulate with the data provided by interviewees. This was accessed from statistical services from international organisations, namely the United Nations Food and Agriculture Organisation (FAO), the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), UN COMTRADE, World Bank World Development Indicators and the OECD, together with national statistical offices. Additional data was retrieved from country-based institutions, such as national central banks, producers and industrial associations, and national sectorial databases.

Secondary sources: Additional information was accessed through reports from international and local NGOs and international organisations; as well as newspaper articles highlighting some of the issues and developments relevant to the analysis presented here. Several of these reports and news clips are from sources in Spanish and Portuguese, which offer the perspective of local actors and go beyond the existing Anglophone scholarship.

To summarise, this thesis adopts a qualitative analysis combined with descriptive statistics to explore the mechanisms of creation and distribution of wealth in industrial agriculture by combining a case-study analysis of soybean production in the Southern Cone with a comparative study of the policies and strategies deployed by Argentina, Brazil, and Paraguay. This analysis had been supported by data collected through elite interviews, analysis of statistical data, and secondary sources.

Argument and original contributions

The main purpose of this thesis is to provide a spatial analysis of the political economy of industrial agriculture in South America, and to unpack the complex

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spatio-temporal matrix that capital investment in this sector has created. As stated before, the key research question that derives from this approach is: *How do states govern the creation and distribution of wealth during commodity booms?*

To answer this question, the thesis will first analyse the conditions for the creation of wealth in the soybean complex, and then explore the mechanisms put in place for the distribution of profits. This thesis will argue that the process of capital accumulation in industrial agriculture is underpinned by two dynamics: the development of massive built environments to support the production and transport of commodities, and the creation of financial instruments and markets that boost liquidity and enhance the profitability of these commodities. This results in dynamics of fixity and mobility of capital, which creates uneven spatial configurations as capital both transforms the physical landscape and has the capacity to flee to more profitable pastures if the attractiveness of this particular commodity declines. While these processes usually transcend national borders, the state has the capacity to reaffirm its authority over them through different strategies, including fiscal and macroeconomic policies. This authority can be exercised in an effort to ameliorate the contradictory patterns created by capital (for example, by using soy export revenue to promote a more diversified economy), or with the intention of exacerbating these uneven dynamics and thus further enhancing the emerging geography of capital (for example, by channelling tax revenues into the expansion of soybean transport infrastructure). Taking these two aspects together, this thesis examines how states both constitute and govern processes of uneven development.

While this thesis is situated in the field of IPE, the case study presented here also contributes to the area of Latin American Studies.

The contributions of this thesis to the field of IPE of development can be summarised in three points. First, by addressing questions over the state's

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capacity to govern the creation and distribution of wealth and the geographies of capital that emerge with commodity booms, this research interrogates and critiques the development model being deployed in the South American region and its limitations. The resurgence of primary commodities production and exports has ignited a great deal of debate in South America, and Latin America more broadly, over how development should be defined, and by whom. Whether the expansion of the primary export sector can contribute to improving standards of living of (mainly) urban populations, or if society should turn to alternative definitions of development that put the relationship with nature at the centre of the organisation of the economy, are burning questions amongst scholars writing on Latin American development. The analysis presented here shows that these issues rarely have unequivocal answers. For example, fostering growth in order to expand provision of social goods might simultaneously create problems of environmental sustainability. Society is hence confronted with challenges on how to conceive development in a context constrained by imperatives of the global economy.

Second, this thesis addresses an issue that has been insufficiently studied by IPE, namely the recent commodity supercycle – a long-time price surge in an asset which usually contributes to structural changes in production and trade (Margulis, 2017). The analysis presented here highlights the power of the commodity boom cycle in penetrating and transforming politics at all levels. While on one hand this thesis develops a framework to understand the particular geographies that these processes entail, on the other this research points to the different capacities of states in constituting and managing these dynamics.

Thirdly, and linked to the point made before, this work offers an analysis of South America that highlights the relevance of this area for the field of IPE, not as an object of study that should be only addressed by Area Studies or Development Studies, but as emerging economies that should be researched more assertively in the field of IPE. In this sense, it aims to challenge the

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'stubborn empirical focus on the small collection of advanced industrialized states, usually with liberal democratic characteristics' (Phillips, 2005: 83) and demonstrate that the study of regions such as Latin America can offer insightful perspectives into the transformations in the global political economy and the changing role and capacities of the state.

In terms of Latin American Studies, this analysis offers an insight into the different ways in which the commodity boom has shaped the political economy of the post-neoliberal state in the region, and can shed light upon the link between these trends in the global political economy and the transformation of the state in Latin America. While analyses of neo-extractivism mainly focus on the social and environmental impacts of these activities, the multi-scalar nature of this analysis provides a more comprehensive approach that can connect global political economic processes with their impacts on local livelihoods.

The analysis of fiscal and exchange rate policies, which have been explored in more depth by Latin American Studies, has not been studied to a great extent in connection to commodity booms, with a few exceptions (see Grinberg and Starosta, 2014). Much less attention, however, has been paid to the links between commodity booms and issues of currency and exchange rate. While much of the literature on the latest commodity boom, and particularly on soybean, has focused on its socio-environmental impacts, for example, this thesis considers the state as more than a recipient of global dynamics and analyses its capacity to govern the commodity boom through the redistribution of the profits created (see Turzi, 2017: 131-135). This research will show how, through tax and exchange rate policies, the states of Argentina, Brazil, and Paraguay have demonstrated different capacities and forms of mediating the process of uneven development.

Structure of the thesis

In order to address the research question, this thesis is organised into three parts. Part I will present the conceptual basis on which this research is developed; Part II will analyse the creation of profit in the South American soybean complex based on capital's requirement for fixity and mobility; and Part III will study states' mechanisms of wealth distribution associated with this sector. The concluding chapter will bring together the findings of each part to present how the particular spatio-temporal matrix of soybean production and trade in South America has created the conditions for the emergence of new patterns of uneven development and the different governance strategies implemented in the countries studied here.

In Part I, Chapter 2 will present a review of the existing literature on the political economy of Latin America's relationship to commodity booms. This chapter will argue that Latin America's intellectual history and the broader academic interest in the region has been closely linked to cycles of boom and bust in commodities. This is connected to the region's particular role in the global economy as a provider of primary products and the tendency of many countries in the region to opt for a growth model based on the export of natural resource-based commodities. This chapter will show that analyses of the political economy of the region have either been excessively economic – focusing solely on trade patterns or macroeconomic variables without exploring the underpinning political issues at play – or focused mainly on the political factors, particularly with the swing towards the left of many Latin American governments during the 2000s. Both approaches favour a focus on the nation state, hence limiting the attention given to cross-border dynamics and their impact on the state's capacity for regulation. While very valuable for understanding some of the changes experienced by the region throughout its history, these academic and intellectual traditions call for a political economy approach that cohesively interconnects the political and economic transformations in Latin America, namely the surge of left-wing governments

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and the resource boom and significant growth experienced by the region since early 2000s. This political economy approach methodologically implies expanding the scalar focus on the nation state to include cross-border dynamics.

To address the gaps identified in the literature, Chapter 3 presents a theoretical framework that addresses these shortcomings by outlining a spatial approach. By drawing on concepts from human geography, this chapter will first highlight the importance of space in political economy. In this sense, this thesis aims to contribute to the 'spatial turn' experienced in other social sciences by highlighting the relational nature of space, namely, how space and political economy dynamics co-constitute each other. With this conceptualisation of space, the analysis then focuses on the emergence of the soybean complex in South America through the lens of Smith's theory of uneven development (2010). Smith points to the emergence of particular geographies of capitalism whose configuration is linked to the contradictory dynamics of capitalism: the opposing tendencies of equalisation – the propensity for space to be increasingly homogenised through the spread of the price mechanism – and differentiation – the emergence of distinct built environments associated with specific economic sectors. These tendencies oppose each other in space, creating patterns of uneven development as capital 'seesaws' from areas of low profitability to high profitability, leaving a peculiar geography in its wake, evidenced, for example, by the stark contrast between the prosperous City of London and the de-industrialised north of England. To further understand the extent of these patterns and the different levels at which this takes place, it is necessary to study the multi-scalar expression of uneven development. The concept of scale broadens the analytical lens to political economy dynamics that take place above, below, or across the nation-state, without discounting the importance of the national political and territorial unit in the organisation of economic processes. This dynamic, back and forth motion between the tendency for economic activity

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to escape the national scale, and the counter-tendency for these processes to be re-embedded in the national territory, will be analysed as strategies of de- and reterritorialisation.

The following chapters develop the empirical analysis of the soybean production complex in Argentina, Brazil, and Paraguay, informed by the theoretical concepts unpacked in Chapter 3. Part II of this thesis will focus on the mechanisms for wealth creation in the soybean sector through an analysis of the political economy of space. Namely, it will study how capital's dual capacity for fixity and mobility has created particular spatial configurations that are at the same time the result and the condition for the expansion of profit in agricultural production. Chapter 4 focuses on capital's fixity, by exploring how infrastructural projects and developments have *reterritorialised* capital and created a very particular geography of soybean in the Southern Cone. The development of roads and logistical hubs and the improvement of waterways constitute the built environment necessary for the acceleration and expansion of capital accumulation in this industry. This has transformed the physical landscape and heralded significant changes in social and political institutions, meanwhile furthering the Southern Cone's integration into the global market through the promotion of the soybean complex. Chapter 5 addresses the most evident form of capital mobility, that is, the creation and expansion of financial markets as sources of capital accumulation. The financialisation of agriculture is a global phenomenon that became most evident during the 2007-2008 food crisis. Financial capital has penetrated both the production and trade of agricultural commodities, particularly soybean, in different ways. This chapter will unpack the different financial mechanisms through which short-term profitability is heightened and agriculture activity is increasingly *detrterritorialised* from the national and regional economy. Overall, Part II, by focusing on capital's capacity for the development of fixed structures *and* the creation of a high degree of mobility,

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analyses the soybean spatial matrix as a multi-scalar construction inherently tied to capitalism's uneven development.

Part III returns the focus to the nation-state, without losing the emphasis on multi-scalarity. Chapters 6 and 7 analyse the state as both mediating and constitutive of the processes of uneven development. This means that the state in each of the countries is studied as an agent capable of governing to some extent the dynamics of capital accumulation and the patterns of uneven development created through it. Chapter 6 focuses on the politics of taxation and the development of fiscal strategies as mechanisms for the redistribution of wealth accumulated through the soybean complex. In particular, it explores how issues of administrative organisation, the role of elites, and the underlying social contract interact in determining the structure of taxation implemented. Building on this, Chapter 7 focuses on macroeconomic policy. This chapter analyses how the politics of currency influence and are influenced by the way in which different economic sectors benefit from the soybean boom. As a boost in exports is generally followed by an in-flow of foreign currency, states develop different mechanisms to mitigate the effects that follow. Additionally, questions of macroeconomic policy have an impact on other variables, such as inflation and external debt, and so this chapter evaluates the consequences of soybean expansion on the national economic performance.

The final chapter will present the conclusion of the thesis. Firstly, this will highlight how the contradictory forces of mobility and fixity (equalisation and differentiation of capital) play out in the South American soybean matrix, and how they both enhance profitability and create patterns of uneven development. Secondly, the chapter will present a synthesis of the different governance strategies that Argentina, Brazil, and Paraguay have deployed to manage the spatial and political-economy configurations pushed forward by capital investment in industrial agriculture.

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In doing so, it provides a comprehensive evaluation of how the dynamics of fixity and mobility interact and co-constitute each other, and how these, in turn, can shape variations in state capacity. Ultimately, this thesis provides a novel insight into broader relations of political economy that are reflected in, but not limited to, the case of soybean in South America.

2. Latin America's political economy: a history of 'booms and busts'

'Our part of the world, known today as Latin America, was precocious: it has specialized in losing ever since those remote times when Renaissance Europeans ventured across the ocean and buried their teeth in the throats of the Indian civilizations. Centuries passed, and Latin America perfected its role. We are no longer in the era of marvels when fact surpassed fable and imagination was shamed by the trophies of conquest—the lodes of gold, the mountains of silver. But our region still works as a menial. It continues to exist at the service of others' needs, as a source and reserve of oil and iron, of copper and meat, of fruit and coffee, the raw materials and foods destined for rich countries which profit more from consuming them than Latin America does from producing them.'

Eduardo Galeano, *Open Veins of Latin America* (1996)

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The arrival of the Spanish to America, and the forceful incorporation of these territories into a world market dominated by the imperial metropolis, had important implications for the region's role in the world economy. From gold and silver, to copper and tin, to oil and soybean, Latin America became a fundamental source of natural resources and primary commodities. It is no surprise, then, that debates around development and the political economy of the continent have generally focused on the challenges or opportunities that such a position offers.

This dependence on exports of primary commodities has made the region particularly vulnerable to cycles of booms and busts in the global economy, as a result of their particular place in the international division of labour. As a supplier of natural resources, variations in the prices and performance of primary commodities have had a significant effect on the economies of Latin America. The development of policies to control and contain the region's

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vulnerability to these price shifts has largely dominated indigenous debates linked to development and political economy.

The unfolding of these cycles usually entails spatial transformations. This is especially relevant in the case of natural resources and primary commodities, as the expansion of the production frontier has very explicit physical implications for the geographical space. Commodities' booms and busts have thus created spatial phenomena requiring attention, such as 'commodity-cities' (Svampa and Viale, 2014) or 'commodity-regions', an example being the emergence of the cross-border 'Soylandia' (Pearce, 2012).

To understand how Latin America in particular has experienced and conceptualised the effect of commodity markets, this chapter intends to explore the region's intellectual history in political economy as it follows trends in this sector. In many ways, Latin American academic literature reflects its economic performance, which is inextricably linked to production of primary commodities. Therefore, this chapter is organised chronologically, as it traces the relationship between the historical development of the region's political economy and the corresponding changes in Latin American intellectual traditions. It is argued that academic analyses and political events have tended to respond to the performance of commodities in the global market. Metaphorically, the intellectual history of Latin America's political economy seems also to follow a pattern of 'boom and bust', as it addresses the problems arising from fluctuations in terms of trade.

In the first section, this chapter will review the body of literature that emerged in the 1950s. The structuralist approach began with Raúl Prebisch's criticism of the international terms of trade, and was added to by economists from the UN Economic Commission for Latin America and the Caribbean (ECLAC). This was followed by a Marxist critique, led by Fernando Henrique Cardoso and Enzo Faletto, which developed into dependency theory. The second section explores what came to be known as 'the lost decade' in Latin

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America, namely the period of low growth in the 1980s and 1990s, during which neoliberal orthodoxy, both in economics and politics, dominated political and intellectual debates. This section is necessarily brief and more historical, for the simple reason that the neoliberal 'Washington consensus' did not generate a corresponding Latin American intellectual tradition, but rather consisted of the export of 'Chicago School' notions of economic management from the Global North to Latin America. However, it is a crucial period to explore so as to make sense of the following social and intellectual transformations. The third section explores the concepts of 'post-neoliberalism' and 'neo-extractivism'; terms developed to capture the political economy dynamics of the period beginning in the early 2000s, which saw the rise of a new commodity boom and the emergence in Latin America of 'left of centre' governments. Finally, after reviewing this literature, this chapter will demonstrate the limitations of the existing approaches and the need to develop a spatial analysis of the political economy of commodity booms in Latin America. It will be suggested that the economism of structuralism and dependency theory and the problems of the post-neoliberal and neo-extractivist literature, can be addressed by analysing these phenomena through the framework of uneven development, and by focusing on state attempts to manage these dynamics at different spatial scales.

ECLAC's structuralism and dependency theory

During the 1950s, a problem-solving and policy-oriented framework emerged in Western academia, which understood development to be achievable through industrialisation and the incorporation of new technology (Randall and Theobald, 1998: 35). Modernisation theory considered Western economies, particularly Europe and the US, to be models for developing countries – many of them recently independent. For Walt Rostow, one of the main exponents of this school, there were five stages of growth to economic development, a process which could be driven internally by modernising elites (Rostow, 1990). While this approach started to gain influence in Latin

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America, a more critical view of development emerged among economists in the region. These criticisms were organised first around the structuralist approach and later with dependency theory – both schools of thought gaining recognition in the late 1950s and 1960s (Cardoso and Faletto, 1979: viii). These theories pointed to the shortcomings of the modernisation school, particularly their lack of consideration of colonial legacies and the limitations imposed on development policies by international trade structures, and, overall, their bias towards Western and developed countries (Carballo, 2014; Kay 1991: 32). Most importantly, the emergence of these perspectives reflected the general feeling in Latin America that the region was not 'catching up' with the developed world, but rather that it continued along a trajectory of underdevelopment (Palma, 2009: 244).

The first response came from a group of economists based at ECLAC, led by the organisation's executive director, Raúl Prebisch. His ideas were fundamental to the expansion and consolidation of the structuralist approach which, along with the later developed dependency theory, became one of the most globally recognised contributions of Latin American thinking. Prebisch's significance to the region and to global political economy extends beyond his theoretical insights. As an important actor for regional policy-making and institution-building, he greatly influenced the economic policies implemented throughout the region and beyond during the 1960s and 1970s, as well as the creation of long-lasting international institutions like the UN Conference on Trade and Development - UNCTAD (Margulis, 2017).

The core criticism of the ECLAC analysis was that the international division of labour had created a trade structure that was damaging to Latin American economies. Drawing on French economic structuralism, this school of thought considered the international trade system to be an asymmetric structure in which advanced industrial countries would increase their productivity while countries in the periphery, relying on a 'primary export model', were forced to import technologies from the centre. According to Celso Furtado (1970), the

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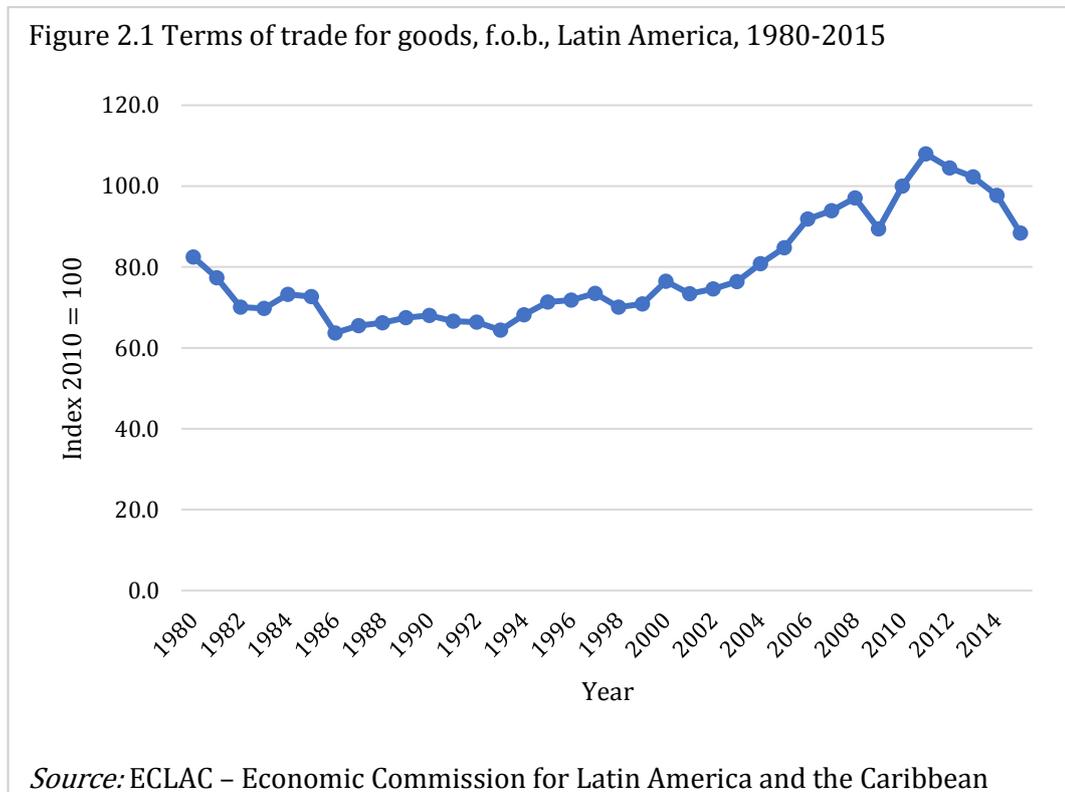
efforts made by these economists were fundamental in breaking with orthodox conceptualisations of economics, namely, that there was a natural international division of labour based on comparative advantages, and in understanding the specific nature of international trade for economies relying on primary commodities exports (1970: 152).

The absence of technological transfer between advanced countries and primary goods exporters was key to the situation of underdevelopment in Latin America. Prebisch – who was the head of Argentina's Central Bank during the Great Depression – argued that the assumption that comparative advantages would distribute technological advancements equally, and hence help countries producing primary products move up the ladder of development, was false (Prebisch 1949: 349). There existed a 'manifest imbalance' (1949: 349) whereby technological progress did not reach the periphery and hence primary production remained the main economic activity. This was the core assumption of his approach, which came to be known as the 'centre-periphery paradigm' (Kay 1991: 35). The international division of labour created 'disarticulated and dualist' economies in the periphery, as these countries were both unable to develop their own technological progress, while the gap in productivity levels between primary products destined for export markets and other sectors remained wide (Kay 1991: 36). Ultimately, this reflected the underlying power relationships present in the world economy, which divided national economies and their respective social classes into the dominant and the dominated (Palma, 2009: 245).

The underlying mechanism of the international trade system contributing to this asymmetry was the deterioration of the terms of trade. According to orthodox economics, an increase in productivity in industrialised countries should entail a reduction in costs and consequently in prices. That dynamic would in turn mean more favourable terms of exchange for the periphery (i.e. cheaper imports), where productivity was rising at a slower pace. However,

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what Prebisch highlighted was that prices of manufactured products did not decline even as productivity rose, thus increasing the disparity between core and periphery (See Figure 2.1). For Prebisch, this was mainly due to the fact that wages and profits in core countries increased in a larger proportion than productivity, creating a rise in prices, possible thanks to the existence of strong trade unions and oligopolies in these countries (Prebisch, 1949: 362; Kay 1991: 37). As a consequence, periphery countries ended up transferring part of their surplus to the core countries (Prebisch, 1949: 362-363). After a period of high prices for primary products during the Second World War, external terms of trade deteriorated by 20% in 1950s, with a slight increase of 7% in the first half of 1960s, which meant that the value of the region's exports and consequently their capacity to acquire imports decreased (Furtado, 1970: 179). Prebisch's analysis highlighted how the cyclical process of 'booms and busts' was affecting countries in the periphery, and the underpinning mechanisms that made it difficult for the region to change its unfavourable



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trade patterns and decrease its reliance on exports of primary goods (1949: 362).

Given the instability and the tendency towards the deterioration of its terms of trade, the structuralist approach argued that the key to Latin America's development lay in industrialisation and a reduction in its dependence on primary commodities. The main obstacle, however, was found in the external conditions – i.e. the international trade system. ECLAC's vision of a solution to this imbalance was a renewed interventionism by the national state (Palma, 2009: 245). Latin American countries would be able to mitigate the effects of dependency through foreign exchange, fiscal or trade policies (Furtado, 1970: 152). Prebisch suggested imposing taxes on primary exports as well as duties on manufacturing imports in order to deviate resources away from the primary sector towards manufacturing (Kay 1991: 37). These proposals were embodied in structuralism's most significant policy contribution: Import Substitution Industrialisation (ISI), which was implemented as state policy in many Latin American countries.

Since disadvantageous terms of trade prevented the periphery from accessing or developing technology that would allow them to industrialise, the ISI strategy proposed a protectionist policy that would facilitate the growth of domestic industries. This, however, was considered to be a temporary situation – a time during which national industry could increase its productivity until it could compete in the international market against products from centre countries (Kay, 1991: 38).

ECLAC's structuralist approach did not consider commodities to be a 'curse' per se, but rather believed that, given the structural conditions of the international trade system, a reliance on exports of primary commodities would perpetuate the region's underdevelopment. As Furtado pointed out, the international context in the second half of the twentieth century indicated that both the share and value of primary goods was declining, affecting these

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countries' capacity to develop (1970: 179). To counter these asymmetric dynamics, structuralist economists assigned the state the role of altering, through fiscal and trade policies, the economic structure and the unfavourable position of these countries in the international division of labour.

Within ECLAC's structuralist theory, the structure of the international market is the root of a problem to which the state is a solution. The nation-state and the global system are the two main scales at which this tradition's analyses of development and underdevelopment operate. This dualist framework results in both a methodological nationalism and a structural determinism, which is one of its biggest weaknesses, as pointed out by its critics. First, there is an over-reliance on the role of the nation-state in achieving development. As Cristobal Kay explains, the structuralist school presents an 'idealized picture of the developmentalist state as a liberating, equalizing, and modernizing force in society' (Kay, 1991: 52). Even their conception of the global scale, divided between 'core and periphery', reveals a nationalist ontology, as this distinction serves as a way of classifying countries, rather than identifying regions or areas. Besides the dominant economism in this approach, there is also a tendency to simplify the meaning of 'development' in terms of a positive balance of payments. There is no analysis, as Gabriel Palma points out, of the relations of production, the nature of the state (2009: 247), nor how changes in the productive structure could affect employment, or well-being in general. It instead relies on a rather narrow economic definition of development. This also leads to another criticism, namely the lack of focus on civil society, or class struggle, in the determination of development.

By the mid-1960s the ISI model began to fail, as imports of manufactures were replaced by imports of capital goods, and the nascent industries were largely established by multinational corporations (Grosfoguel, 2000: 356). Even Prebisch and ECLAC were critical of this process, as technological progress became concentrated among a small number of capitalist firms and

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industry failed to increase employment, aggravating inequalities (Kay, 1991: 39).

As a counter-critique, dependency theory emerged in the 1960s to address the failures of structuralist thought, especially their belief in market forces as (potential) drivers of growth (Cardoso and Faletto, 1979: 2). This intellectual approach took a more radical stance on the circumstances and possibilities of development in Latin America, criticising the structuralist school and the ISI policy for transforming 'industrial dependency' into a 'technological dependency' led by the national bourgeoisie (Grosfoguel, 2000: 358).

Considered to be a combination of 'the structuralist approach with Marxist orthodoxy' (Carballo, 2014: 9), the emergence of this theory was marked by the Cuban Revolution. Raúl Castro's success was seen as evidence that a development model outside of capitalism was possible, and that an alliance with domestic bourgeoisies was not necessary in the search for social progress (Grosfoguel, 2000: 357). Within this group, there are two main positions that can be identified: reformist and radical (Kay 1991: 46). The first group intended to readapt ECLAC's structuralist theory after the exhaustion of the ISI regime. Within this position, Palma differentiates between a group that was still based at ECLAC, which addressed criticisms by distinguishing between the concepts of growth and development and the obstacles to each of these; and a second group more interested in dependency as a methodology for understanding historical processes of concrete underdevelopment (Palma, 2009: 250). The second position, which can also be identified as neo-marxist, was more focused on questioning the capitalist system itself and the possibility of development within it, as dependency was seen to be inevitably linked to capitalist underdevelopment (2009: 248).

In the reformist group we find Fernando Henrique Cardoso, whose work with Enzo Faletto, *Dependency and Development in Latin America* (1979), became one of the key writings of dependency theory. These authors put

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forward a historical methodology that incorporated the economic and social specificities of the development process in each country, for example by understanding the diverse paths towards their integration into the capitalist system as well as the mechanisms of domination endured (1979: 13).

Key to their analysis was the focus on both internal and external structural components and the ways in which they were linked, which meant exposing the asymmetric and exploitative social relations located not only in the international trade structure but also in domestic politics (1979: 15; Palma, 2009: 251). For these authors, external forces were not a sufficient explanation of dependence, and underdevelopment could be better understood by focusing on domestic politics as well as the interplay between both internal and external dynamics. From their perspective, 'the external is also expressed as a particular type of relation between social groups and classes within underdeveloped nations' (1979: 15). This link was expressed as the 'internalization of external interests', through which 'the system of domination reappears as an internal force' within the state (1979: xviii). This means there was an alliance between local and international elites, which explained the continuing close relations between peripheral and core countries inherent to underdevelopment. The 'internalization of external interests' included a socio-political level of dependency overlooked by the 'core-periphery' distinction. Social structures in dependent countries, then, expressed this dual content of external and domestic interests and pressures (1979: 27).

One consequence of this analysis was the consideration of the national bourgeoisie and its alliance with foreign capitals as an obstacle to development in the periphery. ECLAC's intellectuals failed to address class relations and their role in underdevelopment, as well as the imperialist dynamic that still prevailed in the international system (Cardoso and Faletto, 1979: viii). For dependency intellectuals, attention to class structures was important in developing a more comprehensive social analysis, even if it remained

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secondary to the core-periphery dynamic. Internal domination was then explained by this class structure, namely by the presence of a *comprador* class, or ruling bourgeoisie, that engaged in the exploitation of the local population, did not take part in productive activities but rather lived off rents, and was responsible for importing luxury goods from abroad (Weeks, 2012: 97). It was this same elite that modernisation theory had identified as the drivers of progress in these countries.

Interestingly, these authors did not consider development and dependency to be mutually exclusive. Rather, countries can achieve a certain degree of development while retaining their subordinate position in the international system (Kay, 1991: 48; Grosfoguel, 2000: 360). In the words of the authors:

The present situation of development goes beyond the traditional dichotomy between the terms 'development' and 'dependence', because it permits an increase in development while maintaining and redefining the links of dependency (Cardoso and Faletto, 1979: 174).

As Kay points out, Cardoso and Faletto brought together ECLAC's structuralism with the dependency argument by adding a social and political dimension (Kay, 1991: 48). However, their analysis relies on a quite static conception of the international political economy, whereby sovereignty remains at the core of this understanding. By doing so, it assumes that, while certain autonomy is possible for countries in the periphery, there is an underlying hierarchical structure inscribed within the global system (Blaney, 1996). Moreover, the distinction between internal and external forces implies a clear-cut distinction between actors and flows of capital found within or outside the borders of the national state, re-emphasising a very nationalist ontology and limiting the capacity of theory to identify transnational and multi-scalar processes.

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Also relevant for this debate is the work of Celso Furtado, a prominent Brazilian economist whose work relates both to structuralist economics and dependency theory. For this author, it was clear that Latin America's role as provider of food and primary goods had facilitated the region's development in the nineteenth century. However, it had become a source of dependence in relation to industrialised countries (Furtado, 1970: 151). Not only did primary goods exporters depend on investments and demand originating in the advanced economies, but they were also subject to the instability of raw material prices worldwide (Furtado, 1970: 151). In an international market where primary commodities were depreciating, dependence on these products became a source of underdevelopment. Moreover, the asymmetry of the trade system created 'poles of command' of financial flows, price formation, management of export stocks, etc. (Furtado, 1970: 151). In other words, the concentration and centralisation of capital in an asymmetric structure created even more deep patterns of unevenness and more polarised centres of authority in the international political economy. Furtado considered reliance on modern technology to be one of the new forms of external dependence, along with the role of international credit agencies in providing financial flows to the region (1970). Technological progress in Latin America, he argued, was only possible through the setting up of subsidiaries of North American companies and hence limiting the control of the local government's over the industry (1970: 171).

The most radical dependency theorist was André Gunder Frank, who was influenced by Lenin's theory of imperialism and the 1959 Cuban Revolution. He developed his theory on the basis of Paul Baran's work, which explained economic and social backwardness in developing countries as resulting from their incorporation into the capitalist system (Randall and Theobald, 1998). As Frank claims:

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I believe, with Paul Baran, that it is capitalism, both world and national, which produced underdevelopment in the past and which still generates underdevelopment in the present (Frank, 1967: vii).

Frank argued that Europe's colonial expansion, beginning in the 15th century with the conquest of the Americas, resulted in the 'present development of some countries and the present underdevelopment of others', as all countries were drawn into a 'single stream of world history' (Randall and Theobald, 1998: 130). In this arrangement, the new territories incorporated into Europe's economic system entered a monopolistic relationship with the metropolis, thus contributing to the construction of a 'chain of dependency' from the core to the peripheries of the capitalist system. Underdevelopment in Latin America was not the product of traditional or feudal structures, but a result of the contradictions of the capitalist system itself, as development in the centre was achieved through the expropriation of surplus from the periphery (Frank, 1967: 3). It was the world's capitalist system which created structures of centre-periphery (or metropolis-satellite) both at the global stage and internally in dominated countries (Frank, 1967: 94). Frank's core argument was that within this structure, the underdevelopment of the Third World was a *necessary* condition for the development of the industrialised countries.

The central idea of the dependency thesis put forward by these authors was that development and underdevelopment are co-constitutive; they are the result of the core-periphery relation inherent to the capitalist system (Grosfoguel, 2000: 360). The underdevelopment of certain countries was not a result of their own internal economic structure, nor did it derive from the 'original or traditional state of affairs' in these countries (Frank, 1967: 27). Underdevelopment was instead the consequence of the same world historical process that led to the development of Western countries, that is, of the contradictions emerging from the development of capitalism itself – in this

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sense, 'development and underdevelopment are opposite sides of the same coin' (Randall and Theobald, 1998: 130).

Also in this radical tradition we find Brazilian economist and sociologist Ruy Mauro Marini. Similar to Frank, Marini considered that what we find in Latin America are not remnants of feudalism or other pre-capitalist forms, but rather a 'capitalism sui generis' that can only be understood in the wider context of the global system (Marini, 1972). However, he intended to move beyond Frank's approach by considering the specificities of dependency in different stages of capitalism. Drawing more directly from Marx's considerations of surplus value and the law of the falling rate of profit, Marini claims that Latin America played a double role in the international capitalist economy. First, as a supplier of primary products, Latin America has permitted advanced countries to specialise in industrial activity, by providing the means of subsistence to a growing urban and working population. Secondly, the region has also contributed to the shift towards an accumulation regime sustained by increasing productivity through the provision of cheap subsistence means for workers (Marini, 1972).

To summarise, then, both ECLAC's structuralist school and dependency theory, including its reformist and radical variants, share an interest in understanding the underdevelopment of Latin American countries, which is explained by focusing on the asymmetric structure of the international market, namely the region's unfavourable position as a provider of primary commodities to industrial countries. For Prebisch and other structuralist economists, the deterioration of terms of trade was at the core of this process, and as such the pattern of Latin America's development is inextricably linked to the cycles of primary commodities. Dependency scholars, while adhering to the structuralist description of the global economy, point to the contradictions of the capitalist system as the source of this imbalance and consequently of Latin America's underdevelopment. Moreover, these latter analyses incorporate a sociological and political dimension by bringing to the forefront

the role of modernising elites as accomplices in the persistence of underdevelopment.

These disagreements on the underlying mechanisms perpetuating the region's state of dependency – namely the domestic economic structure versus the national class structure – inevitably leads to different considerations on how to escape underdevelopment. For structuralists, the nation-state has a pivotal role in the overcoming of this situation, particularly through the promotion of domestic industry and the aforementioned ISI strategy. Dependency theorists, on the other hand, place their trust in leftist movements for the end of underdevelopment, with Frank even suggesting that only a socialist revolution could reverse dependent relations (Palma, 2009: 249).

Although dependency theorists have tried to move beyond the pure economism of ECLAC's structuralism (Carballo, 2014: 9), they have not managed to escape certain 'economic reductionism', and have also overplayed the role of external variables in fostering conditions of dependency (Heron, 2016: 174). There is little reflection upon how (domestic) political factors can intervene in these dynamics, even if the concepts elaborated by these intellectuals (particularly the structuralists) found a political-ideological expression in the developmentalist state. Additionally, international trade was largely regarded as a zero-sum game where competition among national political units was based on the price and composition – or surplus value – of traded goods: 'Economic development in Latin America has frequently depended on favourable conditions for exports' (Cardoso and Faletto, 1979: 6). This equation of development with favourable trade conditions has resulted in a lack of attention to the nuances and complexities of commodities' trade and production – including the role of non-state actors – and the expanded impact these activities have on social, political and economic conditions. Another criticism, mainly aimed at the dependency approach, pointed to its *fundamentalist* character, as while many authors considered development to be impossible within the capitalist system, the fact remained

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that both high rates of GDP growth in the region between 1950s and 1970s and the East Asian Miracle, which was built on many policies prescribed by Prebisch, seemed to disprove this notion (Palma, 2009: 252; Margulis, 2017: 3). Overall, these approaches do not seem to challenge the principles of classical growth theory and focus on exchange rather than on productivity or alternative paths to development. Development is thus considered to consist of maintaining a surplus in the balance of payments, and hence the role of commodities is understood purely in terms of their contribution to the external trade balance. In sum, ECLAC and dependency theory's view of commodities and the governance of this sector is limited to their understanding of growth as linked to international trade, rather than to internal conditions of (re)distribution.

The growing criticisms of these analyses, as well as the real crisis of the application of the ISI model and the growth of peripheral economies in East Asia, signalled the decline of these intellectual trends and the emergence of a neoliberal perspective empowered by the debt crisis that saw the ascendance in Latin America of the narrative: 'there is no alternative'.

There is No Alternative! The lost decade and the Washington Consensus

By the 1970s the ISI model was in crisis. The system of fixed exchange rate chosen by Latin American countries was meant to facilitate imports of industrial inputs, but as a result provoked a strain on commodities exports, as these lost competitiveness in the world market. Quotas on imports of consumption products continued to be raised, pushing for an expansion of debt as a way of financing domestic industries. Inflation and trade imbalances gradually built up, aggravated by the 1973 oil shock which increased prices of imports. This event also meant the sudden availability of dollars which contributed to substantial rise in the region's debt levels. By the end of the decade, many countries could not afford to service the debt acquired and were forced to devalue, as inflation levels soared. In a context of global recession,

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commodity prices fell and hence failed to contribute to the economies' balance of payments. With negative growth levels, and a mounting informal sector, the 1980s came to be known as Latin America's 'lost decade'.

Simultaneously, Western powers were experiencing a 'neoliberal turn'. Margaret Thatcher and Ronald Reagan were elected in the United Kingdom (UK) and the US respectively, implementing a policy program that aligned with the new political-economy paradigm. Commitment to principles of neoclassical economics and a return of monetarism replaced Keynesian policies, which were considered a failure in the wake of the 1973 oil shock of 1973 (Harvey, 2005; Lapavitsas, 2005). As the state's intervention in the labour market was rejected, the assumption that the free market was the most efficient principle for the organization of the economy dominated the intellectual debate. The state's only role was that of facilitator of the markets' efficient functioning: domestically, this meant deregulation; internationally, the elimination of trade barriers; and politically, the depoliticisation of policymaking (Wylde, 2012: 26).

In Latin America, the initial turn to neoliberalism came from the newly established dictatorships that swept the region in the late 1960s and mid-1970s. Under General Pinochet, Chile was one of the first countries to follow policy prescriptions from the 'Chicago Boys' - a number of Chilean economists who were trained in the Department of Economics of the University of Chicago with Milton Friedman, a leading advocate of the neoliberal counter revolution - and the 'Chilean model'. This consisted in large privatisations, expansion of foreign investment to strategic sectors and increased reliance on primary exports, and was exported through Structural Adjustment Programs (SAPs) designed by International Financial Institutions (IFIs) (Taylor, 2006: 4). The debt crisis of 1980s and high levels of inflation created the conditions for IFIs and the US to encourage the SAPs as a recipe for tackling low growth and inflation in the region through conditionality agreements. The diffusion of these policy requirements throughout Latin America came to be known as the

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'Washington Consensus', a term that embodied the expansion of neoliberalism via a list of principles that these nations were committed to (Williamson, 1990).

Even with some variation, the general tendency consisted in policies directed at establishing macroeconomic stability and opening of trade and financial markets. This acceptance that 'there was no alternative' (Munck, 2003: 495) and the dominance of neoliberalism in political and economic debates was best exemplified by the economic stabilization plan that came to be known as the *Plan Real*. This set of measures was orchestrated by one of the most prominent representatives of dependency theory and then Minister of Finance, Fernando Henrique Cardoso. Its main objective was to 'establish an equilibrium in the Government's accounts, with the aim of eliminating the main cause of hyperinflation' (Inter-Ministerial message, quoted in Sainz and Calcagno, 1999: 12). However, reforms introduced with this plan included numerous aspects of a neoliberal model, such as financial, trade and capital account liberalisation, labour market flexibilisation and privatisation (Mollo and Saad-Filho, 2006: 103). Before the *Plan Real*, a similar approach had been taken in Argentina, where the 'convertibility plan' had established a pegged exchange rate system between the Argentine peso and the US dollar. This was part of a broader shift towards 'technocracy', whereby technocrats were believed to be the most competent state managers, and many of these policies were presented as 'technical responses' to issues like inflation (Saad-Filho, 2005: 225), in consonance with the depoliticisation of policymaking advanced by neoliberalism.

In sum, the intellectual challenge to the political and economic notion that the world had reached 'the end of history' became less prominent in the region during 1990s, strengthening the sentiment that there was no alternative (Corrales, 2012). This conceptualisation of development remained strongly economic, just like structuralism and dependency theory before it, yet this was now driven by the tenets of neoliberalism. There was no particular focus

on primary commodities or their role in the economy, and if anything, this sector suffered from anti-inflationary exchange rate policies domestically and low prices in the international market. Economic governance was focused mainly on attracting financial flows through liberalisation and labour flexibilisation policies. However, an exhaustion of this model led to several crises in the region, such as the currency crisis in Brazil in 1998-1999 and the 2001 crisis in Argentina. As a response, several left-wing governments were elected in Latin America, which to a great extent coincided with one of the most prolonged commodity price booms in decades.

A new commodity boom and the rise of the 'neos': Post-neoliberalism and Neo-extractivism

After a decade of neoliberal policies, it became clear that the drastic retreat of the state from economic activity, financial deregulation and the imposition of the policy recipes prescribed by the IFIs had failed to generate sustainable growth for the Latin American countries, and moreover, had deepened already existing inequalities and vulnerabilities amongst populations across the region. The most evident sign of this failure was the 2001 crisis in Argentina, as the country's economy imploded, leading to a dramatic social and political crisis. Starting in 1998, with the election of Hugo Chavez in Venezuela, a number of countries throughout the region elected candidates from left-leaning parties: Ricardo Lagos in Chile in 2000, Lula da Silva in Brazil in 2002, Nestor Kirchner in Argentina in 2003, Evo Morales in 2005, Rafael Correa in Ecuador in 2007, and Fernando Lugo in Paraguay in 2008. These events were regarded as a new political moment in the region, which has been often referred to as Latin America's 'turn to the left' or 'pink tide' – reflecting the left-leaning, usually anti-American governments that gained power in these countries (Enriquez, 2013).⁷ By 2008, almost 60% of the Latin American

⁷ 'Pink' was used to distinguish these electorally chosen and more moderate left-movements from the 'red' left that was active in Latin America particularly between the 1960s and 1970s (Allen, 2008).

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population was governed by leaders on the left of the political spectrum (Macdonald and Ruckert, 2009: 1).

As Grugel, Ruggirozzi and Thirkell-White point out, it is no surprise that these changes emerged mainly in countries where the economic and social consequences of the Washington Consensus were strongest; or, where these policies had fostered corruption, inefficiency and inattentiveness to social demands (2008: 508). For many authors, the failure to deliver growth and public goods was at the root of the decline of the neoliberal model and the emergence and consolidation of 'Left-of-Centre' governments and the new social movements that arose alongside it (Panizza, 2005; Macdonald and Ruckert, 2009; Roberts, 2007). These limitations have been referred to by Kenneth Roberts as 'dual fault lines' of Latin America's democracy during the 1980s and 1990s: the inherent tension between the new liberal regime and the extreme social inequality found in the region; and the increasing dependence and alignment with the US and consequent loss of national sovereignty (2007: 3-4). While some authors also highlight some positive aspects of the neoliberal era, such as the consolidation of democracies in the region (Panizza, 2005), the negative social and economic consequences of those policies created the conditions for left or centre-left movements to access government through democratic elections, whether they were already established parties or new social and political movements. As Emir Sader put it, 'post-neoliberalism is based on the conditions generated by liberalism, among whose consequences are the inability to return to long cycles of economic growth', namely due to the dominance of financial over productive activity, and the concentration of investment in the former (Sader, 2009: 174). The region abandoned the idea that 'there is no alternative' and entered a moment of 'repoliticization' (Roberts, 2007).

While these changes began in the late 1990s and early 2000s, only later did this trend attract attention from academia (Macdonald and Ruckert, 2009: 6). Initially, interest was ignited by in this revival of the Latin American left after

two decades of absence in the political arena. For James Petras and Petra Harding, the region was experiencing the 'revival and growth of a new revolutionary left' (2000: 3). Similarly, for Sader (2009) it was the election of Hugo Chavez in Venezuela which 'heralded a new period, moving from a phase of resistance to one of hegemonic dispute' (2009: 172), as social movements overcame their defensive position held for most of the previous decade.

Some analyses of these transformations in Latin American politics tried to pin down the predominant feature of the parties and alliances governing these countries. Many initial studies hence focused on trying to categorise them into 'right' or 'wrong' left (Castañeda, 2006), first or second wave (Petras and Harding, 2000), governments formed by already established leftist parties or coming from new emerging social movements (Roberts, 2007), and so on. But regardless of whether the differentiating element was the origin of the ruling party, their relationship with the US and opposition (or not) to market-friendly policies, the concept of 'pink tide' was marshalled as a 'catch all' term to refer to the election of left-of-centre governments.

While acknowledging variations within these governments, certain scholars have more recently preferred to conceptualise the transformation of the last decades as a moment of 'post-neoliberalism'. The term gives context to the emergence of new regimes in the region, while remaining broad enough to encompass the differences with which these countries have experienced this 'turn to the left'. Definitions of post-neoliberalism usually embrace its 'intentionally vague' character (Brand and Sekler, 2009: 12) as a resource for including a broad range of policies and regimes, without the need of a consensus over their specific features, or even whether they represent the end of neoliberalism or not.

Post-neoliberalism has thus been defined as 'a search for progressive policy alternatives arising out of the various contradictions of neoliberalism' (Macdonald and Ruckert, 2009: 19); 'a perspective on social, political and/or

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economic transformations, on shifting terrains of social struggles and compromises, taking place on different scales, in various contexts, and by different actors' (Brand and Sekler, 2009: 6); and as 'an evolving attempt to develop political economies that are attuned to the social responsibilities of the state whilst remaining responsive to the demands of 'positioning' national economies in a rapidly changing global political economy' (Grugel and Riggirozzi, 2012: 4), among others. The common thread among these approaches is an emphasis on social issues as central to this new framework. Underlying these conceptualisations is the understanding that the era of 'no alternative' or of 'the end of politics' is over. New governments have emerged that searched to break with neoliberalism – to some extent – and propose alternative models (Roberts, 2007; Brand and Sekler, 2009: 6).

Initially, there were grand expectations about these new governments' capacity to bring a definite end of neoliberalism – a sentiment very likely provoked by the enthusiasm following the breakdown of the Free Trade Area of the Americas (FTAA) talks. However, much of the literature has shown more caution by avoiding idealisations of the new governance model, namely by pointing out the continuities with the neoliberal era. Nicola Sekler (2009) and Sader (2009: 174) were more enthusiastic and presented post-neoliberalism as a counter-hegemonic perspective; as an opposition to neoliberalism's principles of deregulation, financialisation and labour flexibilisation. However, Jean Grugel and Pia Riggirozzi questioned the extent to which the pink tide presented 'genuinely new and alternative models of governance' (2009: 3) or if, as Francisco Panizza argued, rather than new models being created from scratch, ruling parties were pursuing a strategy of 'bending and moulding' already established policies and institutions (Panizza, 2005: 730). Similarly, Laura Macdonald and Arne Ruckert (2009: 3) questioned whether these developments 'represent the "death of neoliberalism" or whether neoliberalism has transmogrified into a new (post-neoliberal) body' (2009: 2). In some cases, more than an alternative, post-neoliberalism resembles an

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evolution of the neoliberal model, or as Jewellord Nem Singh, discussing the Chilean state, put it: 'neoliberalism with a human face' (2010: 1429). Considering the 2008 financial crash, Jamie Peck et al. argued that it was premature to claim that neoliberalism was over; indeed, as this concept does not entail a clearly defined economic or political model, it is difficult to proclaim its total failure (2010: 101).

Although certain authors (Grugel and Riggirozzi, 2012; Macdonald and Ruckert, 2009) deploy the term post-neoliberalism as a useful conceptualisation of the social, political and economic changes set in motion in Latin America, it risks over-simplifying the dynamic that these changes reflect. Efforts to construct a temporal account of the region's development tend to over-emphasise the coherence, or even economic and political 'success', of different governance models. Similar to the notions of a 'post-Washington Consensus', 'Buenos Aires consensus' and even 'Brasilia consensus', the concept of post-neoliberalism generally reproduces a simplistic 'before' and 'after' account of Latin American political economic history. Bob Jessop highlighted the problems with this kind of periodisation when discussing post-Fordism, pointing out that 'serious analysis of post-Fordism must go beyond noting that it occurs *after* Fordism and show how it relates to specific developmental tendencies and crises of Fordism' (Jessop, 2005: 54). This temporal characterisation has also been used as a political construction, as Cristina Fernandez de Kirchner proclaimed the *década ganada* (decade of triumph) in opposition to the lost decades of 1980s and 1990s, a slogan also used by Rafael Correa in Ecuador.

A common feature of analyses of post-neoliberal regimes is the emphasis on 'continuity and change' with both neoliberalism and the developmentalist policies associated with structuralism. These new regimes did not reject the market, but rather reacted against 'excessive marketization' (Grugel and Riggirozzi 2012: 3). What Macdonald and Ruckert refer to as 'discontinuity within continuity' highlights the persisting adherence to several policies

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established during the Washington Consensus - such as macroeconomic stability - and the incorporation of new approaches that break with that model, such as redistributive policies, social investment and the re-engagement of citizenship (Macdonald and Ruckert, 2009: 3; 20-22). The extent of continuity or change varies in the different regimes and according to different analyses. Jeffery Webber, for example, argues that Morales' policy towards the hydrocarbons industry in Bolivia did not differ considerably from the neoliberal approach (2009). Nem Singh too, while studying state-owned companies in mining and hydrocarbons in Chile and Brazil, found substantial institutional stability throughout the different decades (2010, 2014). Marcus Taylor goes beyond the idea of 'discontinuity within continuity' by writing that pink tide governance strategies are 'a testament to the path-dependent qualities of neoliberal restructuring', meaning the progressive policies and social inclusion mechanisms deployed in Latin American countries simply represent attempts to overcome neoliberalism's contradictions (2009: 35).

While the literature has pointed to the continuities between neoliberalism and post-neoliberalism, much of the attention has been focused on the new features of these governments that allow us to talk of a 'post-neoliberal regime'. Much has been directed at understanding the state and its relationship with both the market and society. This has also implied a shift in attention towards the reconfiguration of hemispheric relations and the redefinition of citizenship and democratisation. Overall, as Jean Grugel and Pia Riggirozzi explain, 'the role and the weight of the state versus the market' lies at the crux of debates about the state in Latin America in the aftermath of the neoliberal era and, consequently, development models in the region (Grugel and Riggirozzi, 2009: 1). Macdonald and Ruckert also point to the 'renewed vigour and significance' of state involvement in issues of development and social equality (2009: 19). Post-neoliberalism embodies the 'return of the state' after being deemed inefficient by neoliberalism.

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For Grugel and Ruggirozzi, it is in this reconfiguration of the state-market-society nexus that the fundamental nature of this new paradigm emerges. They identify two main pillars that constitute post-neoliberalism. The first is the political aspiration of 'reclaiming the state' and its authority in the realignment of a new social consensus (2012: 2). Here, the state reclaims its capacity to address what Christopher Wylde calls the 'state-society' developmental dichotomy, meaning its capacity to consolidate a new form of social contract (Wylde, 2012: 28). This incorporation of the social duties as a responsibility of the state has also created the space for new social movements to gain their place in the political arena and empower marginalised sectors of the population through a renewed citizenship (Brand and Sekler, 2009). As Macdonald and Ruckert put it: 'the social has returned to the agenda of the state as a key site for state engineering, and new ways of connecting the market with the social sphere are being proposed' (Macdonald and Ruckert, 2009: 8).

The second pillar is the use of economic policies for 'rebuilding the state' (Grugel and Ruggirozzi, 2012: 3). The neoliberal assumption that the state's intervention in the market is distortive is replaced by the state taking a managing role over the economy as a legitimate tool to foster development and respond to social demands. Post-neoliberalism attempts to resolve the 'state-market dichotomy' (Wylde, 2012: 9) by creating a state that enhances its fiscal capacity and policy-making autonomy by encouraging production and increasing taxes, while at the same time maintaining some principles of the neoliberal model such as trade openness and macroeconomic and fiscal stability (Grugel and Ruggirozzi, 2012: 11). Some authors like Macdonald and Ruckert (2009) and Wylde (2012) consider this to be a sign of the return of the 'developmentalist state', or as Luiz Bresser-Pereira put it, the emergence of a 'new developmentalism' (2011; 2012a; 2012b).

According to this author, new developmentalism is not an economic theory, but a *national development strategy*, an alternative proposal that emerged in

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response to the failures of the Washington Consensus (Bresser-Pereira, 2011: 113- 114). This represents a return to some of the principles and policies put forward by the Latin American structuralist economists of the 1950s. However, this new developmentalism also presents 'changes and continuities' with structuralist economics - or 'old developmentalism' - and neoliberal economic orthodoxy. Compared to old developmentalism, the new strategy supports export-led industrialization and a competitive exchange rate; also, the role of the state is important but only for assuring a strong domestic market and reducing inequalities, rather than taking a leading role in industrial development and assuring savings for investments (Bresser-Pereira, 2011: 119). As for its differences with neoliberal economic orthodoxy, while the neoliberal approach to growth meant a limited role for the state combined with market deregulation, new developmentalism considers growth to be driven by a national development strategy defined by the state, which also, to an extent, intervenes in and regulates the market, limiting the place of foreign savings in domestic growth. In terms of macroeconomic policies, Bresser-Pereira points to the difference between the mandate of the Central Bank in neoliberal and new developmentalist models: while in the former this institution solely targets inflation, in the latter the control of the exchange rate and employment are added to their list of tasks (2011: 123).

Overall, post-neoliberalism's strategy for 'rebuilding the state' is based on the design of a developmental strategy that draws from elements of both Keynesian theory and structuralist economics, and principles of budget balance and inflation control. This balanced view of the new economic strategy that emerged in Latin America, consistent with the idea of 'continuity and change' or 'middle way' (Tussie and Riggiozzi, 2015), is also in line with Ulrich Brand and Nicola Sekler's words of caution against distinguishing post-neoliberalism from neoliberalism on the grounds of the 'return of the state'. The authors claim that while neoliberalism is usually presented as reflecting a dichotomy between the state and the market, the state had a particular role

regarding social, economic and political issues; namely a repressive one (2009: 7).

A key element in the emergence of these post-neoliberal regimes, and one which is identified by many authors, is the coincidence of this 'turn to the left' with the explosion of a commodity boom and the consequent hike in products' prices. This phenomenon has been the dynamic force behind the region's fast growth in the last decade, and has thus created favourable conditions for post-neoliberal governments' goal of reclaiming and rebuilding the state. As this chapter has shown, and which was echoed by Galeano's words at the beginning, the problem of resource-dependency and 'primarisation' of the economies has been a constant presence in Latin American thinking and persistent feature of the region's socio-economic history (Cardoso and Faletto, 1979; Marini, 1973; Quijano, 2000).

Several authors have identified this turn within the economies in the Global South towards resource-led development and increasing resource-dependency as a new accumulation regime termed 'new extractivism' or 'neo-extractivism' (Veltmeyer and Petras, 2014; Gudynas, 2009; Machado Araoz, 2013). Horacio Machado Araoz (2013) defines this as 'political-economic regimes based on the over-exploitation of the natural goods of their territories' (2013: 129), whereby resources are extracted and shipped to external markets, reaffirming Latin America's role as the supplier of primary resources, and simultaneously deepening the dependency on that market (Gudynas, 2009: 188).

This phenomenon and the effect it has had on economies in the Global South has been dubbed the 'Commodities Consensus', which is underpinned by an agreement (tacit or explicit) over the inevitability of the expansion of extractivist activities (Svampa, 2013). The transition from the Washington to the Commodity Consensus is expressed as a return to economic activities

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based on the extraction and export of natural resources, particularly in Latin America. Argentine sociologist Maristella Svampa defines this Consensus as:

a new order, both economic and politico-ideological, sustained by the boom in international prices of primary resources and consumption goods increasingly demanded by the core economies and the emerging powers, which creates undeniable comparative advantages in economic growth and the increase of monetary reserves, as well as it produces new asymmetries and deep inequalities in Latin-American societies (Svampa, 2013: 31).

The political, economic and ideological consequences of this global arrangement have sparked numerous conflicts over the control and use of land, the expulsion of peasant and indigenous communities, as well as provoking discussions about the nature and role of the state in the region. Referring to this last point, Eduardo Gudynas considers this new extractivism to be a 'progressive' extractivism, as left-of-centre governments take a more active role in the governance of natural resource exploitation, through the imposition of royalties or corporation taxes (Gudynas, 2009: 193). The claim has limited empirical verification, however, as shown by Pablo Davalos and Veronica Albuja (and which will be further explored in this thesis) in their analysis of the distribution of tax income from oil exploitation in Ecuador (2014).

Several authors draw links between the neoliberal project and the emergence of this new extractivist model. The *pink tide* spurred the expectation that such an ideological change would also include a transformation in the relationship between the state and transnational capitals, especially with regards to the redistribution of rents and the role of nature within economic development (Arsel, 2012). However, many of these accounts attribute to neoliberalism a key role in the consolidation of the neo-extractivist model and more generally the return of extractive industries to the forefront of economic growth in the Global South (Svampa, 2013; Singh and

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Bourgeouin, 2013; Veltmeyer and Petras, 2014; Haarstad, 2012). Policies of market liberalisation, privatisation, attraction of FDI, and flexibilisation of labour markets have contributed, according to these authors, to the exploitation of the resource boom that began in the 21st century. While the conditions were established under the neoliberal model, the post-neoliberal state has moved towards the exercise of control over the resource market and, in a way, built a 'post-neoliberal' society through that capacity. Nem Singh's analysis of oil and copper markets in Brazil and Chile illustrates how post-neoliberal states built the ability to oversee and enhance market competitiveness through the design of neoliberal reforms (Nem Singh 2013). In a way, the neo-extractivist model itself represents the elements of continuity and change that those using the concept of 'post-neoliberalism' emphasise.

Post-neoliberalism and more specifically neo-extractivism, remain intellectually and empirically rooted in Latin America. Neo-extractivism is, to some extent, revamping the claims of the structuralist and dependency analyses of asymmetries in the global system by which Latin America maintains a vulnerable and dominated position. Global dynamics in primary commodities prices have put this sector of the economy again at the forefront of the discussion. However, approaches that critically engage with neo-extractivist focus less on the structural processes underpinning this situation of inequality, and instead concentrate on the effects these modes of production and accumulation have on the environment and the local populations. Research is grounded on the local and national level, rather than on the global political economy. An illustrative case that highlights the distance in analytical perspective between neo-extractivism and more structuralist accounts is the 'Gudynas/Harvey controversy', a debate between Eduardo Gudynas – one of the main critics of neo-extractivism – and members of David Harvey's research team in Ecuador over the usefulness or not of recurring to some of Harvey's

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concepts such as *accumulation by dispossession* to understand the situation in Latin America.⁸

Overall, there seems to be a disciplinary distinction among the different approaches to understand Latin America's development and its relation to cycles of commodities booms and busts. While ECLAC's structuralist analysis and dependency theory might have been criticised for their overly economic approach, post-neoliberalism and neo-extractivism place more emphasis on the state's mediation of social and political processes, instead of the role played by the dynamics of global capitalism. In terms of political economy, economists like Bresser-Pereira hint at the emergence of neo-developmentalism as a political economy strategy inscribed in post-neoliberalism that draws from both structuralist economics and neoliberal principles. However, it fails to link how these policy strategies in the context of a commodity boom constitute the politics of the post-neoliberal state in Latin America. Finally, critiques of neo-extractivism coming from political ecology and agrarian studies remind us of the dangers and implications of commodity-based growth, but they do so namely in terms of its consequences for the environment and for local rural populations, which calls for a more fundamental debate of how *development* should be understood and pursued.

It is important to consider that these academic debates have been held in a context in which policy discussions, both in the region and globally, have emphasised the production of primary commodities as a key strategy for Latin America. More specifically, in terms of agricultural commodities, international institutions such as the Inter-American Development Bank (IADB) have highlighted the region's potential to become the 'new global breadbasket' and private transnational initiatives have similarly pointed to the role that Latin America can achieve in a global context of food insecurity (Zeigler and Nakata, 2014; Regúnaga, 2013). As will now be explored in the last section of this

⁸ For the initial article by Gudynas and the following responses see Rosa Luxembourg Foundation (2015)

chapter, the centrality of agricultural commodities to Latin America's global position necessitates an analytical approach that can conceptualise the role of the state in managing the political and economic effects of commodity booms that take place at different spatial scales.

Towards a spatial political economy of Latin America

Since its incorporation into the global capitalist system, Latin America's fate has been closely tied to the variations in prices of primary products. Consequently, the region has produced a vast amount of literature on this issue, with the emphasis placed on different aspects of commodity production depending on the era: in the 1950s the focus was on the external trade balance as the fundamental source of dependence and underdevelopment; and since the 1990s commodity booms have been seen as an opportunity to strengthen democratic institutions and enhance social progress. These different approaches offer a number of helpful tools to advance the study of natural resources exploitation in the region, but they also contain certain shortcomings that inhibit a more complex understanding of the interactions between global, regional, and domestic dynamics.

Throughout the diverse intellectual traditions explored in this chapter, the state is understood as an agent with the capacity to enact different paths to development. For the structuralist and, to some extent, dependency tradition, national authority was regarded as having the capacity to reverse their countries' dependence on primary commodity exports and hence underdevelopment. There is a reaffirmation of autonomy on the basis of sovereignty in the international order (Blaney, 1996). Their only focus, however, is on how the state can transfer resources from primary production to industry through trade and fiscal policies. Its role is linked to the conceptualisation of development in this tradition, mainly as a function of the surplus or deficit on the external balance of payments.

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Post-neoliberalism, on the other hand, focuses more on the changing role of the state, from a facilitator of trade and financial liberalisation in the 1980s and 1990s, to an instrument for rebuilding the state-society nexus. In this context, resources originating in the global commodity boom became instrumental to the post-neoliberal state – a source of income to fund the social expenditure that sustained this nexus. Similar to the prescriptions of the structuralist school, the state became a more active agent in the economy through the imposition of royalties and taxes on trade. However, the main aim was not to radically change the productive structure of the country, but to strengthen the social and political alliances built by these governments.

The post-neoliberal understanding of the state in Latin America offers a helpful framework to account for the transformations experienced in the region since the late 1990s and especially on the importance given to new definitions of citizenship and even of politics. By focusing on these socio-political aspects, however, this approach falls short in understanding how processes of global capitalism have formed the material foundations of such transformations. In other words, there has been insufficient attention paid to how flows of capital can create patterns of uneven development at the local, national, and regional level, as capital follows profits and flees whenever economic activity slows down. Whether by changing the domestic productive structure through import substitution or by opening up the economy and facilitating the inflow of capital through a liberalisation of the market; the problem addressed by the different intellectual traditions concentrated on the best way for the state to manage the cyclical movement of capital. It seems that in moments of 'booms', when the region is benefitting from soaring international prices – such as in the last decade - less attention is paid to how these recurring processes play out for the countries involved. The neo-extractivist literature has focused more specifically on the role of commodities, but again, their analyses focus on the study of the adverse environmental and

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social consequences of the expansion of commodity production throughout the region.

Overall, while the different traditions presented here have advanced the understanding of the governance of commodity production in Latin America, there is still a need for an approach that successfully integrates the political aspects – i.e. the role of political actors, power relations and governance – as well as the economic variables related to flows of capital and productive structures. Moreover, the interaction between global price booms and political and social transformations in Latin American countries would require a more inter-scalar approach that accounts for the different levels of interaction and co-constitution of local, national, regional, and global processes. While many authors have already pointed to the existing contradictions between the discourses that reclaim indigenous conceptualisations of development such as *buen vivir* (living well) and the persistence and expansion of extractivist activities largely funded by transnational companies, these contradictions should be further explored in search for a better understanding of how – and to what extent - the commodity boom explains the configuration of the post-neoliberal state.

By bringing in space, understood as a relational concept, this thesis intends to build upon existing intellectual traditions, as it will account for the structural dynamics of global imbalances and the renewed agency of the Latin American state, which is underpinned by social and ideological changes as well as favourable economic dynamics. As such, this approach will provide new insights into the mechanisms of governance of the creation and distribution of wealth in contexts of structural change such as commodity booms. The next chapter will develop the theoretical and conceptual framework that guides the analysis of the soybean commodity boom in South America from the perspective of the political economy of space.

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'From colonial expansion to the building of suburbs, from the destruction of 'local peoples' in the inner city and the Amazon, capitalism always was a geographical project'

Neil Smith (1992)

Introduction

As presented in the previous chapter, accounts of the processes and transformations initiated by the commodity boom have so far been unable to fully comprehend the complexity of the political economy of the soybean complex in the La Plata basin. While the ECLAC tradition has focused on the structural dimension, depicting a geography of 'winners and losers' solely based on territorial divisions at the international level, more recent analyses of the 'post-neoliberal state' have emphasised the efforts of governments in Latin America to recover state autonomy in a post-Washington Consensus world. The former perspective focuses on the international, and the latter focuses on the national, such that both fall short in understanding how these different levels – as well as regional and local dynamics - interact and are mutually transformed, as exemplified by the recent resource boom.

These perspectives largely rely on a state-centred ontology that has been dubbed the 'territorial trap' by John Agnew (1994). This is in part due to a lack of awareness of the spatiality of political economy processes such as commodity booms, meaning how they acquire particular geographical expressions – for example, through a particular division of labour between different regions, or the organisation of a specific economic activity at the local rather than national level. The absence of spatiality is by no means particular to these approaches. Stephen Bates and Nicola Smith (2008) and Huw

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Macartney and Stuart Shields (2011) have called for further reflection and awareness of space in analyses of change and scale in political science and critical IPE. As Bates and Smith have pointed out, reflections on space can provide ‘a more sophisticated understanding and explanation of continuity and change’ (2008: 200). If space is understood as a social and historical process, and not merely a container of social relations, then we can further explore its role in the reproduction of capitalist relations, and more specifically, in the transformation of the nation-state and its capacities.

This chapter presents an alternative to state-centric approaches that will allow for a better understanding of the nuances of the political economy of Latin America during recent decades. To do so, it draws on concepts from human and political geography. These concepts enable an analysis of *spatiality* in political economy and the identification of the geographical impacts of capitalist processes. By doing so, this thesis will move away from a conceptualisation of ‘space-as-container’ or as *absolute* – meaning as a static, given place where economic, social, and political relations are forged – and towards a *relational* understanding that highlights how space is created through the construction, deconstruction, and reconstruction of capitalist accumulation processes (Brenner, 1999a: 43). This framework facilitates the understanding of processes of transformation that capitalism sets in motion; for example, how agricultural landscapes have changed in South America, as crop diversity is replaced by a monotony of soybean, or how forests disappear to make way for the expansion of oilseed production. These dynamics have fundamental impacts on geography, and express a series of socio-economic relations that exist at different scales.

As a general framework, this thesis conceives these developments as an exemplification of dynamics of uneven development (from now on UD). UD was most extensively theorised by Neil Smith (2010), who developed a framework that explores the differentiated geographical development of regions as a function and reflection of the inherently contradictory tendencies

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of capitalism, particularly the dynamics of equalisation and differentiation, which will be further explained in this chapter. These patterns of UD emerge at different levels of economic, social, and territorial organisation. The chapter will also examine the concept of *scale*, understood not as a universal or given, but as 'materially real frames of social action', and how processes of *rescaling* are transforming the geography of capitalism and creating new dynamics of capital accumulation (Smith, 1995: 60). This problematisation of scale as static leads us question the nation-state as the principal level of economic organisation, as well as to examine the spatial strategies that the state can deploy. As such, this chapter will unpack concepts of *deterritorialisation* and *reterritorialisation* as mechanisms through which public and private authority can be grounded in specific territories or diffused so as to enhance capital's mobility or fixity (Brenner, 1999b). A focus on these mechanisms allows us to re-emphasise the role of the state in processes of political economy without falling into the 'territorial trap' (Brenner, 1999a: 46; Agnew, 1994), by understanding how state policies can facilitate the integration of economic activities at different scales.

By incorporating these concepts into the analytical framework, this thesis intends to follow previous efforts in critical IPE to engage with the 'spatial turn' experienced in other social sciences (McCartney and Shields, 2011: 375). Human geographers such as Neil Brenner, David Harvey, and Neil Smith share many of the same theoretical concerns as critical IPE scholars, particularly a commitment to analysing the dynamics of capitalist development (and their expression in space) and the power struggles that result. First, however, this chapter will argue that a spatial approach will provide new insights into these processes and give an overview of the concept of space in its relational sense. The chapter will continue by explaining the three key elements that will frame this research: UD, scale, and processes of de- and reterritorialisation.

Space as a relational concept – or the importance of being spatial

The expansion of soybean needs to be understood as a spatial phenomenon, specifically in light of the changes witnessed in the past two decades. Since the mid-1990s, soybean production in South America has expanded rapidly, displacing other productive sectors and changing the landscapes of affected regions. The total area planted with soybean almost doubled in Argentina and Brazil between 2000 and 2014 and tripled in Paraguay in the same period, an expansion that is the result of both the replacement of other crops and the incorporation of new land into the agricultural frontier (FAOSTAT, 2017). This growth is not only reflected in production volumes, but it has been expressed by fundamental physical changes that have transformed the geography of the region, such as expanding deforestation, the construction of new roads, river dredging, and the opening of new ports. These physical modifications associated with the growth of the soybean industry have left an indelible imprint on the region's landscape. Furthermore, various financial instruments and market infrastructures have been developed, creating extensive virtual connections between the Southern Cone and economic centres around the globe. These intangible innovations, associated with the globalisation of the soybean trade, have effectively shrunk the relative space separating Latin America from other world regions. All of this suggests that the soybean boom must be grasped as an inherently *spatial* phenomenon.

Authors such as Turzi and Pearce (2011; 2012) have understood the expansion and hegemony of the soybean production complex in the Southern Cone as the emergence of a new, *transnational* geopolitical and economic entity: the 'Soybean Republic' or 'Soylandia'. This reflects a vision of national borders in flux, to the point that the state seems to lose control of the social and economic activities occurring within its territory. These studies do, like much of IPE scholarship, recognise the existence of spatiality, either implicitly by highlighting the emergence of this transnational entity and discussing *national* strategies, or occasionally explicitly by making reference to a *territory*

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with certain characteristics (cf. Macartney and Shields, 2011). These scholars therefore recognise that the processes and transformations related to the soybean boom entail a certain kind of geography (2011: 376). Yet, to quote Henri Lefebvre, the theorist often credited with inspiring the spatial turn in social sciences, a serious engagement with space itself remains '[c]onspicuous by its absence' – the fact that the word 'space' is mentioned on every page notwithstanding' (Lefebvre, 1991: 3).

The recognition of geography by the aforementioned approaches does not develop into a deeper theoretical or philosophical awareness of space that appreciates this dimension as both resulting from and constituting social relations, as Bates and Smith have noted (2008). Space is conceived as an arena where things happen, where social, political and economic relations simply take place. Macartney and Shields (2011: 376) illustrate this constraint by indicating how globalisation studies still maintain a vision of an international order bounded by sovereignty and hence by a Westphalian understanding of the global system. That is to say, many IPE analyses still fall into the 'territorial trap' highlighted by Agnew, whereby the existing configuration of national state territory is assumed to be static and natural. The underpinning ontology is one where space – and nature – is understood as an objective entity, separated from human activity and hence from social relations. Such an understanding of space and society, human and nature, as disconnected from one another prevents us from analysing transformations of space and nature as inherently political and as symptomatic of the dynamics of the capitalist system. This refusal to understand space as social and political encourages scholars to explain geographical processes such as urban expansion or natural disasters like droughts in merely technical terms, which assume the independence from society of these events. As argued by Edward Soja, a prominent postmodern geographer and follower of Lefebvre: 'A continuing aversion to any hint of a geographical determination of social life makes it difficult to see that spatiality is itself a social product that is not

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independently imposed and that it is never either inert or immutable' (Soja, 1989: 127). In a time when geography and nature is changing so drastically, to maintain society and space as separated constrains our comprehension of many of the processes taking place.

In contrast, space, as understood by Soja should be conceived as both the result of and the condition in which social relations occur – it is 'an embodiment and a medium of social life itself' (1989: 120). Spatiality is inherently *relational*, as it is entrenched in social, economic, and political relations. For example, the reorganisation of space via urban planning in Rio de Janeiro's favelas should not be simply conceptualised as a technical project aimed at improving residents' life quality, but must rather be seen as a strategy inherently related to global mega-events like Brazil's hosting of the World Cup and the Rio Summer Olympics. While urban policies in this city were framed in a narrative of 'Post-Third-World-City', claiming they would ensure integration and social benefits for local populations; this spatial project was embedded in neoliberal tactics for exclusion and repression, as for example investments in infrastructure and housing forced the relocation of local residents from strategic areas that had been selected for renewal (Richmond and Garmany, 2016). Geography and spatial configurations should not be regarded as isolated from other processes – there are no 'spatial laws and spatial processes, spatial causes and spatial relationships' on their own – but only as expressions of *social* laws, causes and relationships (Massey, 1984: 3). Space is constructed by social interactions.

As a central organising principle of modern life, capitalism is at the core of the social relations shaping space, and thereby creates a specific geography. Relations of production are 'space-forming and space-contingent' (Soja, 1989: 126), and capitalism has developed a unique spatiality as it evolved: from the dismantling of the feudal countryside, to the urban explosion of the industrial revolution and the emergence of an international division of labour, to the development of technology poles like Silicon Valley and areas with distinct

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rules such as Special Economic Zones (SEZs). Different spatialities have emerged, concomitant to the dynamics of capital accumulation, namely transformations in production, labour and capital mobility (Harvey, 1985: 133). Different regimes of accumulation necessitate and cause new geographic configurations that reflect the often contradictory relations of production underpinning them.

Capital accumulation, and the political regulation of this process, develops in particular 'spatio-temporal matrices' (Jessop, 2000: 327), leading to a particular spatial structuring of social life (Soja, 1989: 127). With each new wave of capital expansion, various patterns of spatial organisation arise that enable the creation and distribution of profit. As Neil Brenner explains:

Each successive round of capitalist industrialization has therefore been premised upon socially produced geographical infrastructures that enable the accelerated circulation of capital through global space. In this sense, as Harvey notes, 'spatial organisation is necessary to overcome space' (Harvey, p. 145). (Brenner, 1999a: 43)

Here the author is signalling how certain physical structures enable the overcoming of that same space, and of space in general, in order to accelerate and expand the reproduction of capital. For example, the growth of the construction industry and the physical emergence of immense property developments was necessary for the creation of a multi-billion dollar property market that collapsed in 2008. As such, infrastructure, both physical, like housing developments and urban infrastructure, and institutional, such as credit provision and specific financial markets, constitutes the structural basis necessary for the continuous expansion of capital accumulation.⁹

⁹ Chapter 4 will explore how transport infrastructure projects are the outcome of the need for fixity in the process of the expansion of the soybean production complex, assuring at the same time the globality of the soybean market, and the production of new spaces for the continuous exploitation of resources. Similarly, chapter 5 will explore how the same motivation lays

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Generally, analyses of territorial organisation and spaces of capital accumulation have focused on waves of new industrial development and the role of urban spaces as facilitators of this process (Jessop, 2002; Harvey, 2008; Smith, 2002; Brenner, 1999b). However, this thesis focuses on agricultural production, and thus with the ostensibly rural sphere. Yet as will be elaborated in the following chapters, capitalist agriculture, and soybean production in particular, has little in common with traditional conceptions of peasant production and rural life, but has rather become part of industrial production, or, in the words of Lefebvre, is *absorbed* by the urban space (2014: 2). The *urbanisation* of the countryside, according to Lefebvre, is the result of transformations in agriculture production that have made it subordinate to industrialisation and urban life (Lefebvre, 2014).

Nevertheless, there are certain specificities to agricultural activity which mean it cannot be easily assigned to the urban sphere. Firstly, agricultural production remains largely dependent on the physical expansion of the productive frontier for growth, despite yield increases through technological improvement – that is, producing more in less space. Extending the commodity frontier is a faster – and cheaper – means to increase production levels. Secondly, due to the low quantities of labour needed for this capital-intensive production, housing agglomerations do not often emerge near sites of agricultural production and thus there is less demand for urban infrastructure. Hence, the physical infrastructure demanded is not urban infrastructure, but rather transportation facilities for faster mobilisation of increasingly large volumes of grains and by-products.

Previous empirical studies show the analytical capacity that space and other human and political geography concepts can offer in the study of political and

behind the development of financial instruments, but in this case, the ‘annihilation of space by time’ is assured not through the development of fixed structures, but rather by expanding capital’s mobility in the virtual space created for such end.

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economic processes. Gavin Bridge et al. (2013) provide a new account of changes in energy policy by applying a breakdown of some fundamental spatial terms. The convergence of energy and geography approaches proposed by these authors reveal important issues for energy transition. For example, the strategies used by states and firms in developing energy systems at the national level as opposed to the EU regional level; or how there were simultaneous tendencies towards cross-border homogeneity, as regulatory standards converged; and heterogeneity, due to the development of differentiated low carbon energy innovations (2013). Similarly, focusing more on the theory of UD elaborated by Neil Smith, Emily Eaton analyses the Agrarian Question – the debate over the role of agriculture in capitalism and whether peasants could become allies of the working classes or a reactionary force against it - through the lens of this framework. According to Eaton, UD gives an additional perspective that shows how both sides of the debate are correct, that is, agriculture is increasingly equalised with other productive sectors in capitalism, but at the same time creates a very differentiated geography based on both product differentiation and scales of production, between subsistence, family, and capitalist farming (Eaton, 2011: 248-249).

This is not to suggest that any attention to space constitutes a single, essentially coherent framework. Spatial analyses have prompted at least two different approaches. On the one hand, authors like Bridge et al. (2013), Bates and Smith (2008) and Massey (1992) focus on the social relations that are involved in the different geographies produced. This means a focus, for example, on institutional and policy change, the creation of spaces for exchange, the sociological dimension of an urban development, and the geographical division of labour. On the other hand, a geographical approach can also illuminate the relationship between capitalism and nature, by treating anthropological and ecological worlds not as two separate entities which sometimes connect to one another, but as an integrated whole in which human and non-human life co-constitute and transform each other (Moore, 2017;

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Eaton, 2011). From this perspective, environments are built according to the 'commodity frontier', to the requirements for the capitalist production of assets (Moore, 2011a). This frontier has expanded capitalist space, advancing the way in which commodities are transformed from their raw stage, into cheap energy, labour, and food (Moore, 2000). Capitalism creates its own 'way of organising nature' and society – both nature and people 'follow' the commodity, meaning they move and re-organise spatially according to the needs of commodity production (Moore, 2011b). This latter approach implies a focus on processes of political ecology, impacts on nature and its transformation by capitalist processes. While not addressing the political-economic impact of these transformations as it is the aim of this thesis, these approaches provide an insight into how capitalist spaces are formed and modified through the interaction of actors, nature, institutions and infrastructures at different scales of the capitalist system.

From Fôrdlandia to Soylandia: uneven development and the seesaw movement of capital

The Amazon jungle already swallowed the Winding Brook Golf Course. Floods ravaged the cemetery, leaving behind a stockpile of concrete crosses. The 100-bed hospital designed by the acclaimed Detroit architect Albert Kahn? Plunderers destroyed it (Romero, 2017).

This is the description of the abandoned town of Fôrdlandia in the Amazon Basin, founded in 1928 by Henry Ford. The automobile industrialist built this US refuge in the heart of the Amazon in the hope of raising Ford's competitiveness by ensuring access to cheap rubber, a key component in car manufacturing. The city included American-style houses, modern hospitals, schools and even a water tower (Reed, 2016). The imperatives of capitalist production and the search for profits took Ford on this endeavour into the

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middle of the Amazon rainforest, and it was these same imperatives that transformed this one-time US fantasyland into a landscape of ruins.

Fôrdlandia, and other cases of rapid spatial development and consequent abandonment, are indecipherable to orthodox social science. John Weeks (2001) states that mainstream economists have tended to claim that under circumstances of free markets and the free circulation of goods, all economies would tend towards convergence. Yet these accounts fail to explain the emergence of acute geographical variation. Nations, regions, and towns develop unevenly: different nations and subnational regions experience varying rates of growth, while cities are home to both multi-billion dollar financial centres and deprived housing estates. According to Smith, traditional geographical theories have also dismissed the historical significance of these development patterns with the transhistorical claim that ‘everything develops unevenly’ (Smith, 2010: 3). Such approaches deny the manner in which modern transformations in spatiality – such as the emergence of geographical differentiation – are historically-specific to the evolution of capitalism. Both the peak of Fôrdlandia and its ruination should be understood not as isolated and incidental occurrences, but as equally inscribed in the cycles of capital accumulation.

In *Uneven Development* (2010), Smith draws attention to the ‘dramatic restructuring of the geographical space’ (2010: 1) and to how these transformations are inseparable from changes in the geography of capitalism. By drawing on the tradition of human geography, Smith develops a framework for understanding patterns of geographical differentiation as expressions of the contradictory dynamics of capital (2010: 1). According to this approach, processes of gentrification, geographical divisions of labour between and within national states, the modification of landscapes, and other spatial differentiations, are not ‘given’ or the result of nature as an external and independent force, but rather the result of the internal contradictions of

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capitalism. It is the system's own dynamics that generate uneven spatial differentiation.

Equalisation and differentiation

For Smith, the unevenness of the geography of capital emerges from the contradiction between the tendencies toward equalisation and differentiation, opposing forces which emerge from the worldwide expansion of capitalist relations of production. These tendencies contradict each other in space, resulting in patterns of capitalist development that are distinctly 'uneven'. As put by Nicos Poulantzas, these tendencies are inevitably interconnected: 'Separation and division in order to unify; parcelling out in order to encompass; segmentation in order to totalize; closure in order to homogenize; and individualization in order to obliterate differences and otherness' (Poulantzas, 1980: 107). In the same way that fixity and mobility are tied together in the expansion of capitalist accumulation, the tendencies of equalisation and differentiation, though opposing, develop together.

Equalisation derives from the way that both labour and nature become commodified and priced through wages and rents. This represents the consolidation of the domain of exchange value over use value, feeding into the long-term tendency towards the equalisation of nature and flows of people. This point derives from Marx's own conceptualisation of use and exchange value: 'As use values, commodities are, above all, of different qualities, but as exchange values they are merely different quantities' (Marx 1976: 128). The global 'race to the bottom' with regard to wage rates as well as 'land grabs' for the acquisition of cheap farmland can both be seen in these terms. As capitalism develops, the thirst for exchange value draws previously unpriceable things into circulation. Through the extension of the commodity form across different geographical expanses, goods, services and labour are rendered different quantities of the same homogenous social substance, what Marx refers to as abstract labour, and thus exchangeable via the imposition of

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a monetary value. In spatial terms, such equalisation is realised through the evenness of development of productive forces, for example in the mechanisation of agriculture for the supply of primary resources for industrialisation (Smith, 2010: 153-155). This tendency towards equalisation is also apparent in aesthetic terms, such as the *Dubaization* of global cities to landscapes of 'yellow Britain' covered by rapeseed crops – both constituting responses to the movements of the general rate of profit (Yigitcanlar and Bulu, 2015; Poulter, 2012).

This spatial equalisation is connected to broader tendencies of economic homogenisation. Marx's identification of the tendency towards the equalisation of profit rates across different sectors is grounded in a parallel tendency towards the equalisation of productivity rates – due to capital's ability to move from one industry to another, firms are forced to introduce new technologies and innovative production processes so as to retain investment. In agriculture, this is expressed by the rise of 'factory farming' and bio-engineering of plants and genetically modified crops. Production processes and the use values themselves – in this case, those provided by nature – are modified so as to fit consumption needs and shorten turnover time, with corresponding negative impacts on crop diversity (FAO, 2010). The industrial mode of production is extended to the rural, reaffirming Lefebvre's understanding of the countryside as part of the urban space.

However, as Smith points out, there is also a counter tendency to equalisation, namely, differentiation. While the logic of exchange value tends to create a qualitative equality amongst commodities, capitalist production must nevertheless be divided into different sectors - at global, regional, national, and subnational scales. Capitalist production requires specialisation, which translates into a division of labour throughout all levels of organisation. This produces a specific spatiality, whereby different geographies are forged that reflect the historical spatio-temporal matrices of capitalism, whether in

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the form of imperialist geographies, core/periphery dynamics, or North/South divides (Harvey, 1985: 142).

This tendency towards differentiation, expressed as the division of labour/capital into discrete sectors, and the subsequent centralisation in these spaces, creates a concentrated and highly developed built environment. This process is bolstered by the concentration and centralisation of capital. The concentration of capital develops as the profit motive pushes for increasing investment in, and accumulation of, means of production, in order to increase the magnitude of output (Smith 2010: 161). Centralisation occurs when individual capitals are combined, leading to the destruction of two previously existing capitals and the creation of a new larger one (Fine and Saad-Filho, 2004: 86). The spatial correlate of this is the aggrupation of individual capitals from one sector in a limited area, contributing to the differentiation of the geographical space. There is a tendency, for example, for factories of garment clothes to be centralised in South Asia, and consequently, labour also tends to locate itself in proximity to these centres, moving from peripheral, rural areas, into urban settlements around the factories (Smith 2010: 166). The City of London is another relevant example of how vast volumes of global capital find an entry point in a centralised zone; one that constitutes the epicentre of much of the UK's dynamism and unevenness (Green, 2014). In short, then, tendencies of concentration and centralisation of capital bolster the differentiation of space, by rapidly accelerating the development of isolated islands of production.

Both differentiation and equalisation are inherent to capitalist accumulation and a product of abstract labour. While all production is equalised through the commodity form, concentration and centralisation of capital creates differentiated spaces and scales of production. These contradictory tendencies are consequently imprinted on space, creating landscapes of UD (Smith, 2010).

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The seesaw movement of capital

The patterns of UD created by the tendencies explained above are not static. As something that is socially constructed and relational, space is not stable, but is rather continually restructured as social relations – and relations of production – are transformed (Soja, 1989: 129). Fôrdlandia was a spatial configuration that seemed appropriate to the post-war economic model, and its subsequent decay and disappearance from the global production chain is a result of the emergence of new regimes of accumulation. However, the structures, roads, and ruins of Ford's Amazonian project remain, leaving an imprint on the Brazilian forest of the once dominant mode of accumulation.

These marks left behind by different historical geographies of capitalism correspond to what Smith calls the 'seesaw movement of capital' (Smith, 2010: 196). Diverse spatio-temporal matrices emerge not only as new relations of production emerge, but also as capital moves from one area of the world to another in the search of higher profits. According to Marx, profitability in areas of concentrated development is eventually exhausted, sometimes just in that sector/region and sometimes on a global scale, causing capital to flee to other less-developed regions. Smith translates this dynamic in geographical terms: 'Capital attempts to seesaw from a developed to an underdeveloped area' (Smith 2010: 198). This causes the violent devaluation of whole spaces - e.g. Detroit or Coventry after the divestment from their automobile industries, or the aforementioned Fôrdlandia - and the relocation of capital to new pastures. Cycles of booms and busts create sudden geographies of erosion, as capital rapidly concentrates and later swiftly flees a particular asset or sector, as is evidenced by the 'modern ruins' of the Spanish housing boom, with at least three million empty properties and tens of thousands still unfinished (Blanchar, 2015). In the words of David Harvey:

Capitalism perpetually strives, therefore, to create a social and physical landscape in its own image and requisite to its own needs at a particular point in time, only just as certainly to undermine,

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disrupt and even destroy that landscape at a later point in time (1985: 150).

The coherent geographies or spatial fixes that capitalism needs for expanding its accumulation process are not stable or perpetual. When a crisis of profitability arises, that space is devalued as capitalism flees to a new area, and a new geography of capitalism emerges.

The logic of the seesaw movement of capital described by Smith depends largely on the capacity of capital to move quickly from one place to another in pursuit of the highest profits, while being simultaneously reliant on the development of a built environment that supports production and circulation of capital in its commodity, money, and labour forms. For the creation of surplus value, capitalism requires not only labour power, but also machinery, storage, transportation, and other physical structures that enable the production, exchange, and consumption of commodities (Harvey, 2006: 233). These structures must be embedded in a landscape, and they cannot be easily transferred to other localities, but rather they are devalued when production moves to a different place or the activity they were built for is no longer profitable. Harvey describes this dual dynamic as capital's need for both mobility and fixity (1985). In order to overcome space, in the form of the absolute distance between the sites of production, sale, and consumption, capital is paradoxically forced to fix itself in space, through the creation of physical infrastructures. In other words, mobility necessitates fixity. This dynamic results in the emergence of structurally coherent economic regions; spatial configurations in which production and trade take on a specific geographic pattern so as to maximise profitability. For example, the 'Soybean Republic' consists of a variety of fixed, physical spaces, including arable land, storage and transport infrastructure, industrial capacity and financial and regulatory institutions – all for the purpose of facilitating and accelerating the negation of the space that stands between the production and sale of this oilseed.

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While the tendencies of equalisation and differentiation described in the previous section create patterns of uneven development, capital's drive towards higher rates of profit and the inevitability of crises in that process, enhance the rapid devaluation of some areas and the development of others. The 'seesaw movement of capital' described by Smith accentuates the unevenness created by the mobility and fixity of capital and consequently the underdevelopment of those regions left behind. The next section explores the ways in which the state has been transformed by these dynamics and its capacity to manage uneven development.

Uneven development and the state

These more or less coherent spaces often coincide with territorial administrative structures, most notably the state. While benefitting from the profits accruing from these zones of production, the state is also forced to manage the contradictory forces of mobility and fixity, and the consequent 'geopolitical rivalries for influence or control over other territories' (Harvey, 2005: 83). However, it is important to point out that these economic regions need not correspond to national boundaries. In fact, the states' structural coherence can also be transformed by the seesaw logic of capital, with the state assuming different spatialities that do not necessarily align with what is understood as the nation-state.

Saskia Sassen analyses this phenomenon through a focus on land acquisitions by foreign buyers or leasers who have been driven by developed countries' increasing demand for commodities (2013). This massive process of acquisition is producing, according to Sassen, a 'partial disassembling of the national territory', as these territories become de-linked from the formally established national state, by expelling people and rejecting the authority of state institutions (2013: 27). Processes or activities that are located within what is considered part of a nation's formal sovereignty, is not necessarily part of the national sphere or subject to the authority of the national state. The

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contradictions of equalisation and differentiation, and of the mobility and fixity of capital, emphasised by Smith, are expressed in what Sassen calls the 'juxtaposition of the national and the global' (Sassen, 2000: 221) or the 'endogenizing of the global into the national' (Sassen, 2013: 27). This is evidenced, for example, by the emergence of financial hubs, an activity that is deeply global and 'virtual', but still needs national spatial fixity. Similarly, extractivist industries like mining express the radicalism of these dynamics, as 'natural wealth excavated from the depth' of the Global South is 'piled up on the surface' of large cities in the Global North (Bridge, 2009: 45).

Furthermore, Sassen (2013) recognises that these tensions can be found in cross-border areas, such as the maquiladoras located in Export Processing Zones (EPZs) in Mexico. The fact that these are located within the borders of a national state, does not imply that we are looking at a national process, or that it is under national sovereignty (2013: 28). These areas facilitate the state's global insertion at the same time as they create 'massive structural holes in the tissue of national sovereign territory (2013: 16). While Sassen believes that we are looking at a 'new economic geography of centrality, one that cuts across national borders and across the old North-South divide' (Sassen, 2000: 225), Smith tells us that the seesaw movement of capital, and the cycles of accumulation and crisis, are inherent to the capitalist system, and hence the geography of capital and the geography of the nation-state are subject to constant transformation.

Taken together, Smith's and Sassen's approaches offer a novel perspective on the nature of Soylandia and its relationship with the states of the Southern Cone. Underlying the theoretical concepts developed above is the assumption is that capitalism *produces space*.¹⁰ At the global scale, this implies that

¹⁰ Smith elaborates this argument on the fundamental link that Marx drew between space and use-value, and identifying its *spatial properties*, *spatial relations*, and *geographical space*. The first concept refers to the actual extension and shape, the physical properties of an object; while the *spatial relations* of a use-value is the usefulness of a commodity in relation to other objects, spaces and activities, and this is what lies 'at the basis of our analysis of location'

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nothing is left untouched by the expansion of capitalist production. If all space is produced, then the idea of ‘natural economic territories’ does not hold: what are sometimes considered ‘natural regions’ are in fact spatial expressions of capital’s contradictions. By conceptualising the growth of the Soylandia as one half of capitalism’s UD – agglomeration of investment in one place, dearth of investment in another (encapsulated by the case of Fôrdlandia) – we are forced to see the role of the Paraguayan, Brazilian and Argentinian states in a new light. Instead of constructing an autonomous cross-border growth model, as traditional regionalism emphasises, these states have instead been forced to attempt to manage the anarchically competitive process of capital accumulation within the soybean sector, without totally foregoing the political goals that they have promised their electorates. When focusing on how national states attempt to govern the process of UD, it is crucial to go beyond analyses of space in general and to examine the ‘production of scale’ (Smith, 2010: 225). By unpacking this concept and the way in which scales are constructed and interact with one another, it is possible to understand the transformations of the nation-state and why the national is not the only level of political economic organisation. The next section explores the concept of scale and its role in the contemporary capitalist system.

Unpacking the concept of scale

As a key concept in geography, and particularly economic geography, *scale* is a tool for the conceptualisation of places and for building coherent relations between them (Sokol, 2011: 16). While it has usually been used descriptively to understand or express levels of organisation, scale began to be introduced as an analytical framework with the rise of globalisation studies, as the transformative effects of ‘rescaling’ began to be felt (Herod, 2011: 1). As an

(2010: 113-114). For example, the *spatial properties* of an industrial factory are given by its size, materials, etc., while its *spatial relations* are dependent on the place its situated; for example, if it is located in Birmingham, and used as a cultural space after being abandoned; or in an EPZ in South East Asia, where a multinational company locates its main garment production. Finally, the *geographical space* is the totality of spatial relations (2010: 114).

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analytical tool that allows for the spatial conceptualisation of different types of social activity, the notion of scale entails a central organising principle. For example, scalar organisation in the military – brigade, battalion, company, etc. – is a function of security requirements. In the case of the global political economy, the principle of scalar organisation is inherently linked with the accumulation imperatives of capitalism (Smith, 2010).

Scale is usually understood as a ‘container’ – the location where social activities occur and within which the production of space takes place (Brenner, 1998a: 460). The urban, the national, and the global, appear as ‘ontologically given’ arenas. However, as Smith points out, there is nothing natural about these various scales – they have no prior existence outside of the historically specific social relations that give them meaning (Smith, 1992: 73). The author himself recognises that to only identify these three scales was limited, and that more attention should be paid to others, such as the household (Smith, 2011: 261). In this sense, the understanding of space as socially produced forces us to conceptualise scale, ‘the most elemental differentiation of geographical space’, as established and produced precisely through social activity (Smith, 1992: 73). The way in which we define an event is determined by the manner in which social, economic, and political life is organised. For example, a drought in the US may be considered a local issue with regards to its immediate impact on farmers, a national issue due to its effects on US agricultural exports, or a global issue because of its impact on international commodity prices. Scale, then, is an essentially *social* spatial differentiation, and is thus subject to transformation as social relations develop.

In *Uneven Development* (2010), Smith identifies three scales at which uneven geographical development can take place: the urban, the global and the nation-state. Of these three scales in which the global political economy is organised, the national has historically been the predominant scale of activity. For Jessop, this primacy is linked to the need for relatively closed borders for mass-production and mass-consumption in the post-war reconstruction

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period (2003: 180). According to Tilly (1992), however, the relevance of the nation-state as a central unit in the economy is associated with its own emergence as a political unit, as it is its capacity to accumulate and concentrate capital – as well as coercive capabilities – which makes it the central scale for social, political and economic organisation. Key to the consolidation of the national as the dominant scale of economic organisation was the necessity of the capitalist class to organise spatially the production and accumulation of capital and labour markets within national borders (Herod 2011: 17). As Harvey (1985) argued, the *structured coherence* of production and consumption is stronger and more clearly delineated when it coincides with the institutional infrastructure of the state.

However, the consolidation of a globalised system challenges the hegemony of the nation-state, as we witness a proliferation of scales for the organisation of the economy. At the global level, it is the imperatives of capitalist production that orchestrates the geographical distribution of economic activity. In this context, the emergence of new scales is an indicator of a larger process of *rescaling* within the global political economy, whereby new spaces and temporalities for the organisation of capital accumulation emerge and challenge the primacy of those already established. This has been framed in different terms by various authors, from the ‘politics of scale’ (Brenner, 2001), to the ‘production of scale’ (Smith, 2010), and the ‘relativisation of scale’ (Jessop, 2003). Despite their differences, all of these approaches advance the notion of a competitive struggle between existing and emerging scales over which will become the ‘new anchor point around which other scales can be organized’ (Jessop 2003: 181). The proliferation of new scales reflects an attempt to restructure the spatial roots of politico-economic, as well as social and cultural, processes. Such rescaling has taken place in the spheres of both capital and labour: from the multinationalisation of corporations, to the global expansion of labour movements, such as the Global Union Federation (GUF) or the anti-sweatshop campaigns (Herod, 2011: 22).

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However, it is important not to understate the role of the national scale in global capitalism and to see processes of re-scaling as evidence of the disappearance of the nation-state. Rather, it is crucial to focus on the transformation of the nation-state's role in the spatial organisation of economic activity. The creation of cross-border areas like the SIJORI Growth Triangle in Southeast Asia or the formation of common markets like the EU illustrate the ways in which the state acts as an engine for re-scaling efforts. As Brenner states: 'the territorial state is itself a multiscalar form of capitalist territorial organisation that encompasses national, subnational, and supranational scales' (Brenner, 1998a: 468). In this sense, the state facilitates the organisation of capitalism at different scales, the national being one amongst many. While the relevance of the national as a dominant scale might have diminished, the role of the state, particularly in the mediation of processes of UD, has not disappeared.

The expansion of the soybean production complex in South America has seen the emergence of different scales of accumulation, distribution, organisation, and conflict. In each of this thesis' empirical chapters there is a multi-scalar dimension, as well as processes of rescaling. Cross-border transactions often escape the control of national governments, and the ownership of capital is not determined by national borders, as illustrated by statements of many officials and producers in Brazil: 'soy planted in Paraguay is Brazilian' (interview APROSOJA, 2014). Similarly, transport infrastructure projects are determined by the demands of the global market, rather than the principles of the national economy or the needs of local populations. A great proportion of newly built roads in the Southern Cone are designed for commodity transport, with the movement of national citizens considered incidental.

The configuration of scales that emerges from the dynamics of capital accumulation, then, is a 'historically specific, multi-tiered territorial-organization' (Brenner 1998a: 464). Furthermore, a particular set of interrelated scales is linked to the specific accumulation regime associated

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with soybean in the Southern Cone. Brenner highlights the scalar dimension of these spatial forms, or what he calls a 'scalar fix' (1998a), building on Harvey's conceptualisation of 'spatial fix', which denotes the tendency of capital to search for different coherent and stable geographical configurations in the aftermath of overaccumulation crises. The continued reproduction of capital after a crisis is achieved through the emergence of a new bundle of hierarchically organised boundaries, or 'scalar fixes', which can facilitate renewed capital accumulation (1998a: 464). While Harvey's concept of spatial fix presupposes the relocation of economic activity, Brenner adds that this relocation also implies a different hierarchy of scales, as for example the national scale might lose relevance in favour of supranational or global arrangements, or the urban scale might appear as the main locus of accumulation.

To summarise this section, scale is neither a natural nor static unit of space. Scale is inherently social, fundamentally shaped by the dynamics of uneven capitalist development, and subject to transformation – rescaling – as the imperatives of capital accumulation change. The new constellation of scalar arrangements that emerge following economic crises should be understood as scalar fixes, which allow capital accumulation to continue in a spatially reconfigured manner. It is against this background of scalar transformation in the organisation of capitalist social relations that we can understand the processes of de- and reterritorialisation, which will be discussed next.

State space and processes of de- and reterritorialisation

The existence of a multiplicity of scales, interconnected and interdependent, is the spatial expression of social relations at a certain moment of capitalist development. The creation, transformation, and destruction of different scales, and the consolidation of different 'scalar fixes', is the result of the waves of growth, crises of overaccumulation, and consequent new expansion that characterise the capitalist mode of production. It is through these cycles of

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expansion, destruction and reconfiguration that new scalar fixes are produced and new patterns of UD emerge. As explained earlier, UD is the result of the contradictory tendencies of equalisation and differentiation. These tendencies are expressed spatially through the contradiction between fixity and mobility, that is, between the simultaneous need of capital to both quickly migrate to different spaces and to develop physical infrastructures that enable what Marx called the 'annihilation of space by time' (Marx, 1973: 539). This opposing but indivisible need for agility and rapidity in capital's turnover time and for immobile structures to assure this process, is captured by the processes of *detritorialisation* and *reterritorialisation* (Brenner, 1998a: 462).¹¹

Traditionally, territoriality has been associated with the nation-state, as the container of social, political and economic relations within a set of clearly defined borders (Brenner et al., 2003: 2). Moving beyond state-centric ontologies, territorialisation implies establishing mechanisms for the organisation of social relations over a certain space, or different 'geographical strategies of partition and integration employed by economic and political actors (states, firms) in the exercise of authority and/or commercial power' (Bridge et al., 2013: 336). This is exemplified by spaces such as the EU, the 'company town' or the shopping mall, territories with distinct and differentiated norms and governance regimes. The 'taken-for-grantedness' of state territoriality can be traced back to the establishment of the Westphalian state-system and the coupling of sovereignty and territoriality as the basis of modern nation-state legitimacy (Brenner et al., 2003: 2). However, as explained in the previous section, the advent of globalisation and the challenge of other scales for the primacy of political and economic organisation have put

¹¹ The concepts of *detritorialisation* and *reterritorialisation* were first introduced by Deleuze and Guattari in their work *Anti-Oedipus* as part of their schizoanalysis approach. Initially designated to describe the process 'to free desire from established organs and objects' (Holland, 1999: 19), the authors also link this concept to issues of capitalism such as the separation or detachment of the labour force from the means of production (i.e. land) and their re-attachment or *reterritorialisation* into new means of production (1999: 19-20). Both processes were tied together, with the state having the capacity to simultaneously detritorialise and reterritorialise (Buchanan, 2008: 107).

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into question this seemingly unbreakable link between state space and a coherent, well-defined territoriality.

Analysing the prolific literature on globalisation, Brenner identifies two main approaches to the methodological challenge of state territoriality. Firstly, authors such as Immanuel Wallerstein have applied the same state-centric conceptualisation to the global scale, thus developing a focus on 'global territorialism' (Brenner 1999a: 53). Wallerstein's world systems theory – much like structuralism and dependency theories in Latin America – considers the world to be divided between countries of the centre and periphery, that is, the differential levels of development were explained by the asymmetrical relationship between advanced and developing nation-states as a fundamental feature of the structure of the capitalist system. This approach falls into the territorial trap by fetishising the national territory, and thus failing to analyse how patterns of unevenness and differentiation exist both at the subnational and regional level. Secondly, Brenner argues that several accounts – such as O'Brien (1992) and Scholte (2000) – have focused on processes of deterritorialisation, that is, the increasingly mobile and immaterial nature of social, economic and political relations, pointing to the disintegration of the nation-state and the consolidation of other scales, either sub- or supra-national, as a reflection of the rise of transnational capital. This approach hence considers processes of deterritorialisation to be diametrically opposed to and mutually exclusive with dynamics of territorial fixity (Brenner, 1999a: 60).

However, Brenner identifies three shortcomings of this approach. First, it conceptualises territoriality as an absolute reality – it either exists or it does not – excluding the possibility of exploring the ways in which territory is eroded or transformed. Second, scales are conceived as part of a zero-sum game instead of engaged in inter-related and interdependent dynamics. And third, it assumes a complete separation between processes of

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deterritorialisation and spatial fixity (1999a: 62). Overall, Brenner claims, these limitations fail to understand that:

Processes of deterritorialisation are not delinked from territoriality, for their very existence presupposes the production of fixed socioterritorial infrastructures within, upon, and through which global flows can circulate (1999a: 62).

Deterritorialisation should be understood as the uprooting of social activities from a particular set of territorial boundaries and their consequent reconfiguration at a supraterritorial scale; while reterritorialisation denotes the re-rooting of such activities within certain territories. Together, these processes express the moments of motion and fixity of capital – the dual quality of economic activity. While processes of de- and reterritorialisation are opposed to one another, they are also inextricably linked in the cycle of capital accumulation. The scalar structure of accumulation regimes is ‘moulded’ by the contradiction between fixity and motion (Brenner, 1998a: 461), and it is this same contradiction that constitutes the basis for the geographical differentiation created by the ‘seesaw movement of capital’ (Smith, 2010). The opposing forces of equalisation and differentiation, fixity and motion, and de- and reterritorialisation are the underpinning forces of the ‘construction, deconstruction and reconstruction of geographical landscapes’ (Brenner, 1998a: 462) in capitalism, which assume an inherently uneven shape.

It is crucial to conceptualise de- and reterritorialisation, not as purely structural forces, but as *strategies* wielded by a variety of actors (from states and other political authorities to private capitals) to influence the geographical organisation of social, political and economic relations. This allows us to focus on ‘the interaction of political power and bounded space’ (Bridge et al. 2013: 336). For example, Bridge et al. (2013) demonstrates how the UK’s energy system was being reterritorialised in light of the EU’s efforts to construct a European energy strategy, at the same time as the role of urban and local

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initiatives were being revalued in the use and management of these resources (2013: 336). Similarly, the emergence of transnational and non-governmental initiatives for the governance of soybean production, such as the Roundtable on Responsible Soy,¹² or the development of networks of private actors for the exchange of technologies and discussion of trade strategies, such as Mercosoja, enable the organisation of economic and political power at a different scale. Yet, nation-states, while losing their hegemony as the primary scale of capitalist production, remain essential components of globalisation (Brenner 1999a: 44), and this is especially reflected in their role as agents of territorialisation in the reconfiguration of processes of capital accumulation. Through deterritorialisation and reterritorialisation, the state can become an organiser of not only the national scale, but also the global or the local. The policies it decides to enact, through fiscal policies or currency manipulation, can be seen as mechanisms through which it acts as a mediator, or agent, in the processes of rescaling (Brenner, 1998a: 467).

This is illustrated, for example, by the state's involvement in developing large physical infrastructure projects, such as the construction of the highroad BR-163 in Brazil connecting soybean production areas with new international ports, which will be further developed in Chapter 4. While remaining careful not to fall into the 'territorial trap' of understanding the nation-state as the only locus of economic, political and social organisation processes – but also without discarding the state's role within the global process of capital accumulation – it is crucial that we understand the state as an institutional infrastructure for the organisation of capital accumulation across different scales, and as a crucial proponent of reterritorialisation. These alternative scales, such as the urban, benefit from efforts by the nation-state to

¹² The Roundtable on Responsible Soy (RTRS) is a global initiative that gathers civil society organisations and members of the soy value chain in order to encourage the production of soy in a responsible manner, reducing the social and environmental impacts of this activity. The RTRS has developed a standard for Responsible Soy Production worldwide that seeks to promote 'soy production that is socially equitable, economically feasible and environmentally sound' (Responsible Soy, 2017).

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accommodate regulatory frameworks that would consolidate the city as the main locus of, for example, financial activity.

According to Lefebvre, it is the state which imposes a spatiality upon the chaos of economic, social and political life. Through the coordination of flows and stocks – in other words, mobile and fixed capital; dynamics of de- and reterritorialisation – the state is capable of spatially coordinating the economy (Lefebvre, 2003: 85). Lefebvre argues that the state constitutes a fixed institutional framework ‘upon which each round of capital circulation is grounded’ (Brenner, 1998a: 469), and hence, the state is a key actor in the geographical reconfiguration and rescaling of the capitalist mode of production.

Not only is the state active in exercising territorialisation strategies for the cycle of capital, but it is also ‘an institutional mediator of uneven geographical development on different spatial scales’ (Brenner, 1998a: 462). The development of the state as an immobile infrastructure and its capacity for developing territorialisation strategies to organise scalar reconfigurations is essential for its capacity to *regulate* the flows and stocks that are circulating at different scales. Through these mechanisms, the state attempts to legitimate patterns of uneven geographical development that emerge from regimes of accumulation. As I will explore in the second section of this thesis, the governments of Argentina, Paraguay, and Brazil have each utilised fiscal and monetary policy so as to affect the allocation of wealth created by the soybean sector across different scales; by, for example, promoting competition at the subnational level, or centralising resources and determining distribution at the national scale. The state’s role in the intermediation of uneven geographical development does not necessarily imply that it is able, or willing, to actually tame these differences or eliminate them, but it can alter or even deepen them, as well as attempt to marshal them for its own political purposes or those of the political party in government.

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Lefebvre argued that the participation of the state in regulating capitalist organisation heralded the advent of a 'state mode of production' (SMP) – an institutional framework which simultaneously assures nationally grounded 'specific patterns of capitalist industrialisation' (Brenner, 1999a: 45), and the regulation of the resulting UD. In this sense, the state constitutes a fixed structure upon which capital can build new forms of territorial organisation (Brenner 1998a: 469). On the one hand, the state is engaged in the production of space for the unfolding of relations of production, productive forces, and the production, realisation and allocation of surplus value (Lefebvre, 2003: 93). This essentially means that it sets the rules for territorialisation and the realisation of the capitalist mode of production. In the context of agricultural production, this involves, for example, determining limitations of deforestation activity, or modifying levels of taxation that could (dis)incentivise the expansion of soybean production. On the other hand, it is by being involved in the establishment of a historically specific spatial configuration for capitalist accumulation that the state is capable of controlling and regulating – to a certain extent - the flows and stocks of capital and hence the forms of UD that are created in the process. If territorialisation can be deployed as a strategy for the territorial organisation of political power by different agents, the state is described by Lefebvre as a key actor in these processes.

Lefebvre's conceptualisation of the SMP does not imply a reaffirmation of the state territoriality as unchallenged and dominant, but rather helps us identify it as an agent in the creation and management of processes of rescaling and the reconfiguration of new scalar fixes. States attempt to govern the uneven spatial dynamics that are created through capital accumulation. Even as globalisation challenges the territorial sovereignty and relevance of the nation-state, it remains the most developed and longstanding institutional infrastructure for the organisation of political power. The existence of durable institutions upon which political power is territorialised is 'an essential

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precondition for the state's ability to regulate flows' (Brenner 1998a: 469). In other words, through redistribution and the creation of new scalar configurations, state institutions look to legitimate the geographies that emerge from the seesaw movement of capital. De- and reterritorialisation, then, are strategies wielded by nation-states to impose a kind of spatial and scalar order onto the uneven dynamics of capitalist development.

Methodology and research strategy

As outlined in the Introduction, this research has put forward a qualitative analysis that combines a case study examination of the soybean complex in South America with a comparative approach that focuses on the strategies developed by the state in Argentina, Brazil, and Paraguay to govern the dynamics of uneven development emerging from the expansion of the soybean complex. The analysis is built upon data acquired through over 50 elite interviews in Argentina, Brazil, Paraguay, and Uruguay; secondary sources, including policy and technical reports; and descriptive statistics, along with newspaper articles to contribute to the corroboration process.

I conducted 54 interviews in Argentina, Brazil, Paraguay, and Uruguay during my time in these countries between July and December 2014. The research strategy aimed to select interviewees from three main groups. The first group consisted of former and current civil servants and cabinet members from different Ministries in charge of policies linked to the agricultural sector, namely the Ministries of Economy, and Agriculture and Livestock. These actors provided information on the relevant policies developed regarding the agricultural sector, their understandings of the expansion of soybean production, and the role of the state in promoting or regulating this phenomenon. The second was made up of members of unions or associations of agricultural production and employees or officials from agribusiness companies, both domestic and transnational. This group offered perspectives from the private sector – from medium and small-scale farmers to large

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trading companies – and unique knowledge of the mechanisms that enabled the enlargement of the soybean chain, as well as the relevant market dynamics. The third group consisted of specialists, academics, and members of think tanks and international organisations. These interviewees provided different analyses of the soybean complex and highlighted broader and longer-term trends regarding this sector.

To engage with representatives from these three groups, I first identified relevant actors from each group in all three countries, and then proceeded to select interviewees based on a three-part strategy. Firstly, I drew from my existing contacts in Argentina, where I had worked for an International Relations think tank, which was part of an initiative linking private entities dedicated to agribusiness in Argentina, Brazil, Paraguay, and Uruguay (GPS – the Southern Producing Country Group). Second, I directly contacted government agencies, government departments, and agribusiness associations that I had identified as relevant. This strategy was especially successful in Brazil, where many officials from the different government ministries responded positively to my calls and emails. Thirdly, I attended several conferences and seminars on issues of trade and agriculture where I engaged with participants and presenters who fell under the three categories mentioned above. After the initial contacts were made through these three avenues, the sample of interviewees was expanded based on a process of snowballing. Through this strategy, I was able to interview a broad range of actors, including former Ministers of Agriculture and Environment, former Secretaries of Trade and Agriculture, former members of government directly involved in the design of certain controversial policies, as well as authorities from producers' associations, agribusiness enterprises, and leading analysts from both trading companies and research institutions.

The interviews would start with an open-ended question on the conditions and dynamics that facilitated the expansion of the soybean complex. This allowed the interviewee to develop a narrative on what they considered the

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main elements in the consolidation of the complex and its main challenges, out of which I was able to identify how questions of tax, exchange rate, infrastructure and financialisation were key in defining the soybean sector as both a transnational phenomenon and a concern of the national state. The interviews were semi-structured, as the aim was to let the interviewees speak extensively and freely. While the first interviews were more exploratory, the interview questions would be modified progressively to access more detail of the processes described. This was particularly important to identify the commonalities and specificities of each country studied.

The information accessed through these interviews was triangulated with other sources in order to corroborate the claims that underpin the analysis of this research. First, the information was compared with the accounts provided by interviewees from different groups. That is, between government officials, members of private companies and institutions, and analysts, to check the differences or similarities in their description of relevant processes. Second, when relevant, the data provided by interviewees was checked against official statistics, both from national agencies as well as from international organisations, as detailed in the Introduction (see p. 22). These descriptive statistics on production, crop area, trade, fiscal revenues, and exchange rate fluctuations were used to support and extend the analysis of the dynamics identified by interviewees. Third, reports and analyses from global and national research institutions, international organisations, and local and international NGOs, as well as academic studies, were incorporated to triangulate the data emerging from interviews and complement the analysis on issues that were not sufficiently explored in the interviews. Fourth, examples that reflected struggle in the distribution of wealth, or the social and environmental effects of soybean expansion, that were highlighted in interviews but that were not possible to identify from statistics or existing reports, were triangulated with newspaper articles that either supported the

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claims made in the interviews or reflected similar dynamics to those described by interviewees.

Conclusion

This chapter proposed a theoretical framework that will underpin the empirical analysis of the governance of industrial agriculture in South America, particularly looking at the expansion and regulation of soybean production in the countries of the La Plata River Basin: Argentina, Paraguay, and Brazil. The aim was to introduce a spatial approach from a critical IPE perspective to understand and analyse the processes of transformation in the aforementioned national economies and the different ways in which the corresponding states have attempted to govern such developments. To do so, the idea of space as a relational concept was introduced, and its usefulness in understanding processes of political and economic change was elaborated. By overcoming the idea of space as a simple container where political, economic, and social activities take place, it is possible to view changes in landscapes and patterns of spatial differentiation as historically determined expressions of social relations – and more specifically, capitalist social relations. Within this broader resignification of space and its role in the operation of the capitalist system, there are three closely interrelated concepts that can further explain the processes taking place in South America: UD, (re)scaling, and (de/re)territorialisation.

UD, when analysed at any given moment in time, can be understood as a frozen image of the contradictory tendencies of the capitalist system. Yet at the same time, UD is a dynamic phenomenon that is transformed as capital moves from one place to the other, and develops regimes of accumulation that end in crises of overaccumulation, hence creating new patterns of UD. These forms of UD do not occur at a single level, but at several scales at the same time. Incorporating the concept of scale allows us to identify the process through which a multiplicity of scales, understood as levels of economic and political

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organisation, such as the local, the regional, and the global, emerge as spaces of struggle coexistent and interrelated to one another.

The historically specific 'scalar fix' associated with a particular regime of accumulation is the consequence of the contradiction between fixity and motion. This tension emerges from capital's need to move quickly from one place to the other as a response to crises of overaccumulation, and at the same time its dependence on fixed structures that can enable this mobility – the 'annihilation of space by time'. Territorialisation denotes the strategies through which public and private authorities determine this fixity, by organising political, social, and economic processes in a particular spatial and geographic configuration. Through deterritorialisation and reterritorialisation, the mobility and fixity of capital is realised – strategies that target a variety of different scales. While the state is not the only actor to wield such strategies, it remains a crucial force behind these processes.

Guided by this theoretical framework, the structure of this thesis intends to follow the geographical (re)configuration of the soybean productive complex in South America and the strategies of de- and reterritorialisation that have been pursued by the states involved. The next part of the thesis (Chapters 4 and 5) will focus on the contradiction between fixity and mobility and the spatial reconfiguration of dynamics in the region. Chapter 4 will focus on physical infrastructure for the transport of commodities, representing processes of reterritorialisation; while Chapter 5 addresses the most evident form of deterritorialisation, namely, the creation and expansion of financial markets as sources of capital accumulation. The latter part of this thesis (Chapters 6 and 7) will focus on the state as an agent of territorialisation of capital accumulation and as a mediator of forms of UD. To do so, Chapters 6 and 7 will explore how policies of taxation and macroeconomic management are designed and applied in each country, and the impact they have on the scalar and geographical allocation of profits and hence on patterns of UD. These states' interventions, however, were not always for the purpose of

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ameliorating these contradictory dynamics, but rather can also foster unevenness and deterritorialisation.

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Introduction

In 1914, the Panama Canal was opened: an incredible work of engineering that connected two oceans and unlocked immense opportunities for world trade. As McCullough argues (1978: 11), this was not just a large-scale technical endeavour, but also a 'profound and historic event and a sweeping human drama' that 'affected the lives of tens of thousands of people at every level of society and of virtually every race and nationality'. A century later, the canal has undergone the largest expansion since its inauguration, with increased capacity and more efficient logistics for maritime transport (Canal de Panama, 2017).

The impacts of this innovation on the soybean industry have been succinctly summarised by the US' United Soybean Board: 'Panama Canal – more exports, more profits' (United Soybean Board, 2014). As in many primary commodity export industries, profits in the soybean sector are chiefly made by trading in large volumes. An expanded Panama Canal means that larger and more frequent shipments can cross the bi-oceanic channel in the direction of both the Asian and European markets. The importance of this project brings to light the significance of the development of transportation infrastructure in this sector. The agglomeration of investment in the Southern Cone – one half of the seesaw movement of UD – is only possible through the integration of social scales, in this case, local and regional farming is transformed into national export performance and finally realised upon the global market. Paradoxically, such scalar integration, expressed as the mobility of commodities and capital flows, is entirely dependent on the creation of *fixed* infrastructures in specific territories. This chapter will explore the strategies through which state and private sector actors have attempted to maximise the

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profits of the soybean complex by creating fixed structures to facilitate mobility; strategies of reterritorialisation for the purpose of deterritorialisation.

This chapter engages with this particular aspect of the spatio-temporal matrix of commodity production; that is, the construction of transport infrastructure as a key element in the process of capital accumulation associated with the soybean industry. Roads, ports, machinery, and bridges usually go unnoticed in political economy analyses, as the existence of these structures is generally taken for granted and assumed as given. The purpose of this chapter is to demonstrate two important points: firstly, the centrality of these fixed structures in the production of wealth, as a necessary condition – along with capital mobility – for the creation of profit; and secondly, that this need for fixity, for economic activity to be grounded in particular territories, in turn creates new spaces, gives rise to processes of rescaling, and contributes to the seesaw movement of capital and thus the emergence of patterns of UD.

This chapter demonstrates that transportation infrastructure plays a very significant role in the spatio-temporal matrix of soybean; namely, to realise the ‘annihilation of space by time’. In doing so, these projects materialise the simultaneous and contradictory moments of reterritorialisation, as they constitute built structures grounded in territory, and deterritorialisation, as their main purpose is to extract the commodity from its production location and exchange it on the global market. Moreover, in the cases explored in this chapter, the state plays a pivotal role in enabling the expansion of this modality of capital accumulation. The strategies undertaken to achieve this range from deregulation and the facilitation of private management (Argentina), to the direct state funding of infrastructure development (Brazil). These policies created conditions for the concentration and centralisation of capital, either in a logistics hub, or by motivating the purchase of large extensions of land for soy farming, deepening geographies of uneven development.

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Mapping the full extent of the infrastructure involved in the functioning of this commodity's production process would be impossible within the confines of this thesis, which is why this chapter focuses on three cases that are most relevant for the soybean complex and that also reflect the different dynamics associated with these spaces. First, the chapter will explore the development of a logistics commodity hub in Argentina located on the margins of the Paraná River: Gran Rosario. This 80km area boasts some of the largest grain processing and handling facilities in the world, and is responsible for exporting 80% of Argentina's soybean produce. Second, the chapter considers the development of a highway connecting the South, Centre-West, and North regions of Brazil. The BR-163, initially planned during the 1970s, has been revamped as a response to soybean producers' demands for better access to ports. Third, the chapter will discuss the recent development of a barge fleet in Paraguay and the role of the Paraguay-Paraná waterway in the transportation of export commodities. The chapter concludes by highlighting the different mechanisms through which these spaces are created in response to the expansion of the soybean complex, while at the same time creating uneven social, economic, and environmental dynamics.

A multi-functional commodity hub: the Gran Rosario Complex, Argentina

As a global system, capitalism requires the transport of commodities from their points of production towards their destination markets. This section analyses the role of logistics hubs, which are zones of high capital concentration and centralisation that act as gateways to global markets and are thus essential in the consolidation and smooth functioning of an export-oriented economy.

Commodity chains are embedded in specific social and institutional contexts. The latter are not only transformed by the presence of such economic activities, but also have transformative effects upon them, thus giving rise to a co-constitutive process (Henderson et al., 2002: 445-446). This

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embeddedness is territorial as well as institutional. Firms locate themselves in areas with natural or institutional endowments for the strategic purpose of profit maximisation. Consequently, these capitals become spatially 'locked-in' and attract other firms, creating new nodes in the global production network (2002: 452). This process of spatial gathering allows the formation of clusters, which can be organised vertically by bringing together different stages of the production chain, or horizontally by connecting different firms located at the same stage of the production process. In particular, the Gran Rosario complex constitutes an essential node in the agribusiness sector, and specifically the soybean commodity chain. This constitutes a significant point for connecting farmers, suppliers, and storage facilities; incorporating processing plants that advance the industrialisation of agricultural products, and linking the commodity chain with external markets.

The Rosario-San Lorenzo-San Martín complex, also known as the Gran Rosario area, is a collective of grain handling facilities and ocean vessel loading berths that extends for 80km on the shore of the Paraná River in the Province of Santa Fe, Argentina. The complex is located at the heart of the Rio de la Plata Basin, the most extensive fluvial way in Latin America.¹³ Its geographical locality gives the area of Gran Rosario a unique position for connecting the national, regional, and global economy. As Figure 4.1 shows, the ports of Rosario, San Lorenzo and San Martín are part of a larger network of naval infrastructures connected to the port of Buenos Aires and Nueva Palmira in Uruguay, which access the Atlantic Ocean via the La Plata River. While this might not be an image easily associated with analyses of commodity booms, it expresses the dimensions of the processes involved in the materialisation of these cycles.

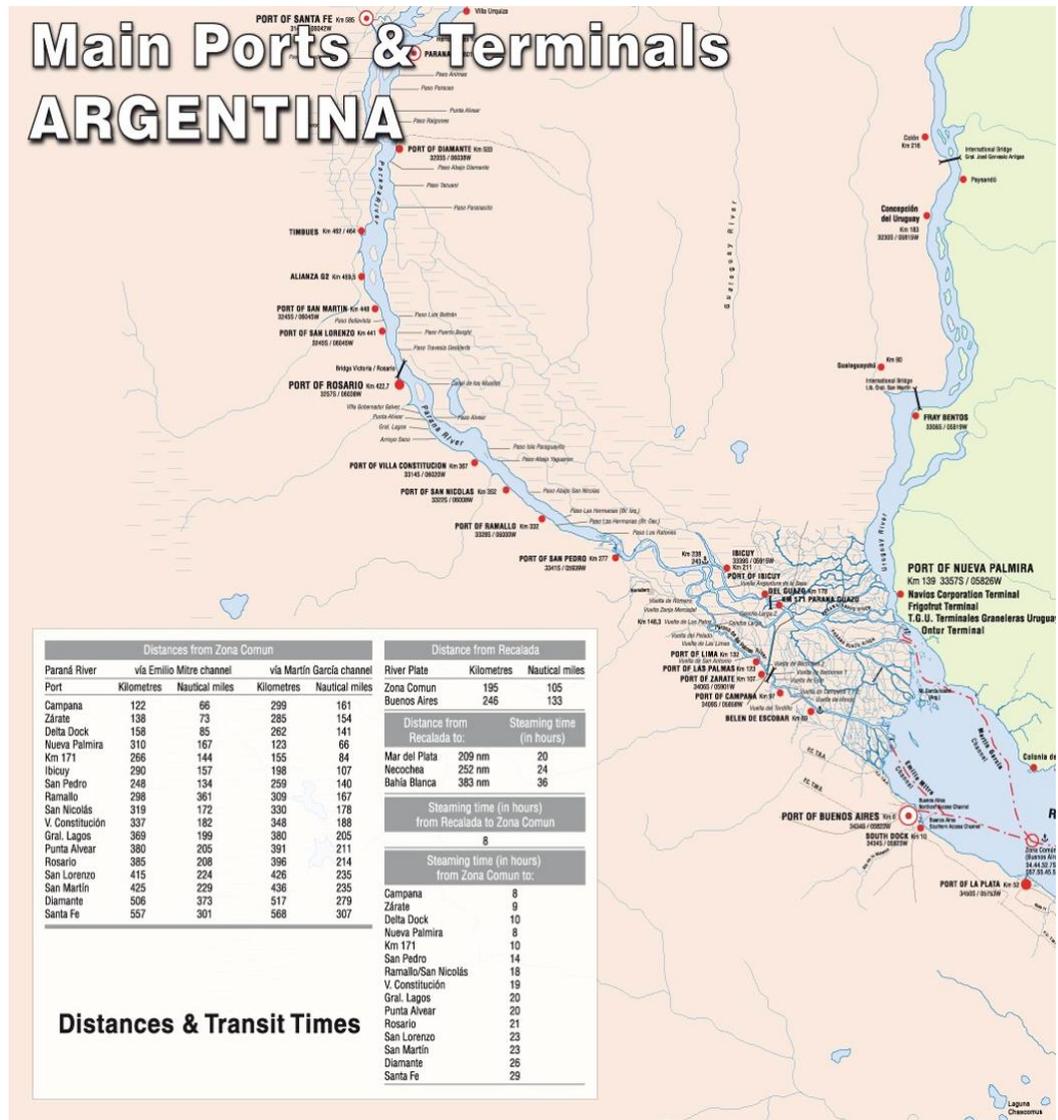
¹³ The basin covers around 3,200,000 square kilometres, the equivalent to a third of the European continent. It is comprised of the basins of the rivers Paraná, Paraguay, Uruguay and La Plata crosses the territories of Argentina, Bolivia, Brazil, Paraguay and Uruguay.

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The Gran Rosario area gathers a number of actors and activities, forming a multi-functional cluster. There are three main activities that are developed in this complex, and their geographical concentration makes this area a key nodal structure in the global production chain. These functions are: agro-industrial cluster; logistical hub; and financial and commercial centre. The first point refers to the concentration of grain crushing plants, as 80% of the installed oilseed crushing capacity of the country is located there (J.J. Hinrichsen, 2014). This is especially relevant in a country where exports of soybean cake and oil represent almost 34% of its overall agricultural exports (IICA, 2016), making it the world's number one exporter of soybean oil and oil-cake (UN Statistics Division, 2016). Besides its industrial capacity, the city of Rosario, located close to the Gran Rosario area, gathers a number of institutions that are part of the soybean complex, one of the most important being the *Bolsa de Comercio de Rosario* (Rosario Board of Trade), an institution founded in 1884 to provide transparency for grain exchange in Argentina. The institution has

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Figure 4.1 Main Ports and Terminals, Argentina



Source: J.J. Hinrichsen, 2014

fostered a physical grain market, as well as a futures and securities market, hence becoming a pole for the exchange of financial assets linked to agricultural production (see Chapter 5).

However, the aspect of this commodity complex of most importance for the purpose of this chapter is that of the logistical hub. The area of Gran Rosario is the main point of dispatch for agricultural produce destined for export markets. Most soybean production is found only 400km from this industrial

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and port complex, and this combination of proximity and development of infrastructure makes it one of the most efficient logistics hubs in the world. There is an average of 10 thousand trucks per day entering the complex during harvest time (interview CIARA, 2014), each carrying around 30 tonnes of soybean and other grains. This would be enough to meet the entire annual UK demand in a matter of days. Throughout the Gran Rosario complex there are over twenty loading berths through which most of the agricultural production destined for foreign markets is dispatched. As previously mentioned, data from 2012 shows that almost 80% of Argentina's grain and by-products exports were shipped from these ports. This includes 27,428,838 tonnes of grains (67% share of total shipments); 23,788,526 tonnes of by-products (93.12%) and 4,061,236 tonnes of oils (81.35 % share of vegetable oil deliveries from Argentine ports) (J.J. Hinrichsen, 2014). In 2010, there were 2,028 ocean vessels that entered through the river of La Plata and headed up towards the Paraná River into the Gran Rosario complex.¹⁴ During harvest time, the *monthly* volume of foreign currency coming from the sector has been consistently above US\$2 billion since 2010 (CIARA, 2015). These figures illustrate the size and consequent impact of the logistical operations associated with grain production.

The Gran Rosario complex also benefited from the routes provided by the La Plata basin waterway. Production of soybean in Paraguay, for example, is largely found on the margins of the Parana River, due both to the soil conditions and for transport purposes, as much of the produce travels down the river to be exported from the ports in Argentina or Uruguay. Industries in Gran Rosario profited for some time from a system of 'temporary import' to receive and process soybean originated that in Paraguay. The 'temporary' feature meant that this produce was only imported to be transformed into a by-product and later exported. Argentina's superior capacity and the easy

¹⁴ Of these, 27% were Handy-size boats of up to 35,000 DWT; 14 28% were Handy-max of up to 50,000 DWT and 44% were Panamax boats with a capacity of up to 80,000 DWT (Boot and Zuidwijk, 2013).

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access through the waterway facilitated this scheme, which de-incentivised industrial development in Paraguay and allowed the Gran Rosario complex to absorb added value. However, this system ended in 2009 as it was suspected to be used to pass off Argentinian soybean as Paraguayan, hence avoiding the tax imposed on exports at the time (see Chapter 6). Due to the numerous bureaucratic obstacles that the Argentinean government has imposed on the import and export of agricultural commodities, Paraguayan soy – which needs to leave the continent through one of its neighbouring countries – is increasingly leaving through Uruguay; travelling down the Uruguay River basin before finally being exported through the Uruguayan port of Nueva Palmira.

The emergence of the port hub for grain handling in the area of Gran Rosario is linked to the particular pattern of soybean expansion in Argentina. As it was further explained in the Introduction of this thesis, soybean was initially introduced into Argentine agriculture in the 1970s, and production began to increase in the 1980s, with a considerable jump in the 1996/1997 campaign after the approval of GM varieties (Giancola et al., 2009). The transformation of Gran Rosario into a large-scale logistical centre was thus part of the broader spatial configuration of the soybean spatio-temporal matrix, with Rosario becoming a central piece in the Argentine and the global agricultural commodity network.

While the first port terminals were developed by the state in 1949, it was in the 1980s that the number of grain handling terminals began to grow, with some additional legislative changes in the early 1990s that framed the development and consolidation of the logistics complex (Boot and Zuidwijk, 2013: 174). These changes were enabled by the national state through a series of legislative changes that proved fundamental in the consolidation of Gran Rosario. The main element was the modification of the Law of Ports, first in 1979 and later in 1992, which allowed the first private terminals in the early 1980s, and later in the 1990s resulted in the construction and private

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administration of general load and container berths (Boot and Zuidwijk, 2013: 174-175). This enabled private capital to invest in more advanced logistical equipment and facilities, competing directly with the state managed ports, and to push for further works to increase the number and size of vessels accessing the area. During the 1990s, projects were completed to increase the depth of the river to allow for easier access to the Atlantic Ocean, as well as investments in railroad systems to facilitate access to the port area (Lopez and Qüesta, 2011). As a result, these localised capabilities have transformed the Paraná Upriver area into a key 'command and control' (Sturgeon, 2003) hub for the global network of oilseed production. In spite of the state's role in providing favourable legislation, as well as conditioning work, there have been demands from the sector to further improve access to the port area through additional railroad routes and to further deepen the river to allow access for larger boats. As a manager from the Chamber of Oil Industry of Argentina said: 'businesses cannot substitute the state' in providing the logistics and transportation infrastructure necessary for the continual expansion of Gran Rosario's volume capacity, and for incentivising soybean production in more remote areas (interview CIARA, 2014). Through these strategies, the Argentine state has promoted the reterritorialisation of the soybean complex, by rooting it in this incredibly concentrated agro-industrial complex, so as to allow the deterritorialisation of this same industry through the flow of soybean commodities to foreign markets.

While the state played a key role in providing the conditions for the settling of a logistical hub on the bank of the Paraná River, it was the dynamics of capital towards concentration and centralisation that made the Gran Rosario the vast hub that it is today. As it was described above, this area was responsible for handling and trading the majority of soybean produced in Argentina, the third largest soybean producer in the world, giving us some indication of its significance. Moreover, Gran Rosario held some of the largest industrial installations for processing grains in the world. An example of this

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was the 'mega-plant' for the production of oil, pellets and biodiesel from soybean processing, owned by the Argentine company Vicentín and the Swiss firm Glencore, which involved an initial investment of US\$30 million (Clarín, 2007). A new segment inaugurated in 2013 demanded an additional investment of over US\$400 million (RosarioNet, 2014). As a manager from the Chamber of Argentine Oil Industry said, 'there is no going back' (interview CIARA, 2014), as these mega-plants constitute a fixed feature of the local landscape and a key locus for the coordination of the soybean complex. Any drawback in terms of production levels or demand would produce a massive devaluation of the built infrastructure and leave the complex' enormous capacity without a purpose.

Spatial transformations around the Gran Rosario complex – through the improvement of road and railway access, and the deepening of waterways to allow the entry of larger shipments – act to enlarge the scope of soybean's economic space and thus expand the commodity frontier. Similarly, the existence of a significant idle capacity for processing oilseeds in the area, which reached 30% in 2015 (Neffen, 2015), incentivises producers to further increase production volumes and hence cultivated land in the country. This reflects the conceptualisation of space as both shaped by and shaping relations of production. While initial investments and infrastructure developments were deployed as a response to market transformations – in this case, the expansion of an agro-export economy – the resulting built environment played a role in shaping expectations and consequently influencing existing social, economic, and political relations.

Overall, the development of a built environment and the concentration of activities has contributed to the vertical and horizontal bundling of the soybean and overall agricultural commodity network, making Rosario a central hub and key connector between the production of the soybean commodity and its realisation on the global market. This area has become a central node in the drive for both faster turnover time, and the handling of

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increasingly large oilseed volumes. First, through the connection with production points and export markets and the development of technologically advanced grain handling facilities, the title of 'most efficient cluster on the planet' (interview CIARA, 2014) has been given to Gran Rosario, based on its capacity to 'annihilate space by time' (Marx, 1973). This strategy to reduce turnover time accelerates the circulation of capital and consequently enhances its concentration and centralisation. Second, the number of works on the river and the construction of larger industrial infrastructures and berths enabled an expansion in volumes traded and hence in profits, especially considering that in agricultural trade profits are usually achieved by increasing the scale of production or trade. This second strategy then contributed to the increasing concentration of capital and consequently the intensification of UD. These developments, however, have not occurred without profound environmental and social impacts, thus perpetuating the production of space and social relations in two important ways.

Firstly, while the Paraná River is particularly deep by nature, making it an attractive route for the entry of large vessels, the current depth is the result of dredging works to allow access by larger ships to the loading ports in the area. There have been demands from the sector to maintain and increase this even more, so as to allow easier access and mobility of ships (Boot and Zuidwijk, 2013). This is just one example of how nature has been altered according to the demands of capital, and particularly of how the Paraná-Paraguay basin has been transformed into a commercial and industrial space. This has been done as part of a larger project developed by the countries of the La Plata River Basin that have created the Paraná-Paraguay Hidrovía (waterway) that reaches from Puerto Caceres in Brazil to the North, and Puerto Nueva Palmira in Uruguay to the South. The program, which connects Bolivia, Brazil, Argentina, Paraguay and Uruguay, was developed for commercial purposes, transforming the river way into a channel for the international shipment of goods. This transformation risks the sustainability of the waterway as a rich ecosystem,

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and could entail negative consequences for the local wildlife, the environment, and even the livelihoods of populations that depend on fishing or other subsistence activities.

Secondly, the Gran Rosario complex has given rise to profound social contradictions. While it facilitates the realisation of millions of dollars every week, it is also an urban conglomeration characterised by poverty and the increasing dominance of narco-trafficking organisations. Rosario, dubbed the 'narco city' of Argentina, is the country's most dangerous city, with the highest rate of homicides (Stocker, 2013; Boole, 2014). With a growing population concentrated in the neighbouring areas, the poor state of roads, and the enormous circulation of trucks heading to the grain handling facilities prevents access of ambulances and security forces, leaving the population in a position of great vulnerability (interview CIARA, 2014). Another indication of this link was highlighted by researchers at the National University of Rosario. In collaboration with trade unions and social organisations, in 2010 they initiated a project named 'Invisible Territories' aimed at mapping the health and environmental impact of the activities of the agro-industrial complex. The project identified over 230 cases of environmental contamination by agro-industrial and oil companies, usually connected to irregularities in the disposal of chemicals or exposure of workers to these fumes (UNR, 2011). Rosario has become what Maristella Svampa and Enrique Viale termed a 'commodity-city', an expression of the economic, social, and environmental dislocations created by the consolidation of a commodity hub fundamental to the circulation of soybean capital (Svampa and Viale, 2014). As these cases illustrate, the development of large built environments that respond to the movement of capital in search of larger profits create patterns of UD at different scales, including the local, as multi-million dollar investments co-exist with pollution, health afflictions, and lack of access to social services for the local population.

The Gran Rosario complex has been consolidated as a determinant link in the chain of Argentine soybean production and distribution. Its immense capacity

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for storing, processing and moving soy produce into the largest vessels in existence allows the transportation of incredibly large volumes of commodities to distant markets, such as Europe and China. Due to the vast built environment created to serve such a purpose, the commodity hub has become an enclave economy in itself, an anchor for the export of natural resources. Enmeshed in this place are dynamics of concentration and centralisation of capital, as the 80km area of land holds some of the largest investments and biggest grain handling and processing facilities in the world. While the BR-163, which will be analysed in the next section, expands through thousands of kilometres, opening up the soybean frontier, the concentration and centralisation of capital in Rosario created similar dynamics. However, by deepening the hub's capacity for processing and trading, it also incentivises the creation of new spaces of agricultural production in remote areas of Argentina. The development of this agro-industrial cluster cannot be understood without recourse to the role of the state in promoting its development – measures that constitute strategies of reterritorialisation for the purpose of the greater integration of national and global scales of capital accumulation. Yet, as Smith warns, these processes do not expand without creating imprints, and the social and environmental effects created are part of the patterns of geographical UD carved out by the soybean complex and its spatio-temporal matrix.

A soybean corridor in the Amazon basin: BR-163, Brazil

As previously mentioned, Brazil is the world's second largest producer of soybean and cultivation of this oilseed covers 27.7 million hectares (CONAB, 2016), approximately the size of Italy. However, key to the profitability of such an extensive productive area is the capacity to transport produce to its destinations, whether that be domestic or external markets. The vast extension of the Brazilian countryside becomes one of the greatest challenges in the success of the soybean complex.

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The last twenty years has seen a significant reconfiguration of the spatial ordering of agriculture in Brazil. This has been driven by the advancement of soybean production, fuelled by a combination of technical innovations, international prices, and migration in Brazil. Motivated by the prospect of access to cheaper property, many farmers from the traditionally agricultural South began to settle in the Centre and Centre-West of Brazil and create large farms that now characterise the landscape of states like Mato Grosso and Mato Grosso do Sul (interview Nidera Brasil, 2014). Driven by the profitability of the agricultural sector, the commodity frontier has expanded (and continues to expand) dramatically, as it incorporates more territory in the Centre and North of the country.

This geographical transformation has had a number of implications. In terms of production methods, it has been underpinned by the consolidation of highly mechanised and large-scale agriculture in Brazil, accompanied by technical innovations that improved planting conditions, namely the development of a soy seed variety resistant to more tropical climates. This in turn changed the characteristics of the actors involved, with the emergence of large agribusiness companies managing vast expanses of land dominating the sector, in contrast to the traditional medium-sized land holder farmer in the South of the country, who were usually organised in cooperatives. Moreover, the spatial configuration of the national economy was altered, as these regions, particularly the state of Mato Grosso, previously in the periphery, became the geographical centre of one of the most dynamic sectors of the economy. This was also expressed politically, perhaps most evidently by the appointment of Blairo Maggi, the world's largest soybean capitalist and former governor of the regional state, as the Minister of Agriculture in 2017. In addition, this reconfiguration also had important social consequences, as the urban agglomerations in these regions augmented and living conditions changed. For example, the states of Mato Grosso, Mato Grosso do Sul and Goias, which had very low levels of Municipal Human Development Index (MHDI) in 1999,

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improved significantly and achieved levels of MHDI in the 'high' band in 2010 (Atlas do Desenvolvimento Humano no Brasil, 2017). While the reasons behind this improvement were manifold, and must also be contextualised within the national increase of MHDI, part of this improvement can be attributed to the emergence of a wealthy rural class associated with soybean production (interview CPDA(a), 2014).

Yet the expansion of this commodity frontier and the reconfiguration of space is not only limited to the area of direct soybean production. The *circulation* of agricultural commodities, in this case soybean, is fundamental, particularly for commodities that are largely consumed in foreign markets. While farms located in Southern states had more direct access to the main ports of the country – Paranaguá and Santos – the new locations of production were isolated, largely unpopulated and in general quite dislocated from the core economic circuit of Brazil. There was a disparity here; a detachment between the Southern part of Brazil, which has been traditionally more developed and containing the necessary road and maritime infrastructure for the trade of commodities, and the Centre-West and North of Brazil, where new agricultural production has mostly been located. Existing patterns of UD, whereby the South-West of the country has historically enjoyed an economically dominant position, are being redefined by the emergence of a process of capital accumulation based on highly-mechanised, large-scale production of soybean.

Part of this reconfiguration and of improving circulation of commodities, was highlighted in the need to address the so-called *custo Brasil* – the Brazil cost – which entails 'the cost of the lack of infrastructure and the losses in terms of logistics' (interview MAPA(a), 2014). This problem was raised as one of the main challenges facing the Brazilian soybean industry in almost every interview conducted, from members of producers' associations (interview, ABIOVE, 2014; interview CNA(a), 2014), to staff in government ministries (interview MAPA, 2014; interview SPA, 2014). However, while this cost is

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specifically attached to soybean in this case, the term has been more generally used to describe the operational costs for businesses in Brazil compared to other countries (The Economist, 2007). In other words, this cost represented the failure of Brazilian capitalist geography to ‘annihilate space by time’.

Demands from the private sector for public investment in infrastructure to address the *custo Brasil* express the role of the state in processes of spatial reconfiguration and re-scaling. While logistics and transportation solutions might be planned on the national scale, it creates ‘forward’ impacts upon global circuits of commodity trade, and has ‘backward’ implications for regional and local dynamics of urbanisation, deforestation and economic development. Such fixed infrastructure is thus essential for scalar integration. In this case, the Brazilian federal state was requested to assume responsibility for facilitating the conditions for capital accumulation and the re-scaling of the Brazilian national economy into the global economy as an efficient provider of soybean. Space is therefore determined by the imperatives of capital accumulation, while the space produced by this process in turn creates new social relations and new spatial configurations.

The difficulties of Brazil’s freight system are usually presented in contrast to the situations in Argentina and the US, the country’s main competitors in the soybean export market. While in Argentina the core soybean producing area is only 400km away from the main export point, the Centre-West region of Brazil – responsible for most of the country’s soybean production – is 2,000km away from the main ports of São Paulo and Paraná (Hirakuri and Lazzarotto, 2011). This has significant impacts both on the time and cost of transportation. While a soybean shipment will take around five hours from the state of Cordoba in Argentina to China, it would take around seven to eight days from Mato Grosso to the port of Santarem, in the state of Pará (interview CPDA(b), 2014). In terms of cost, freight represents around 30% of the total cost of production and delivery of soybean to port from Mato Grosso, the costliest element overall (Martins and Oliveria, 2012: 7). As a point of comparison, the

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cost of cargo shipments from Mato Grosso to the closest port was US\$47 per tonne, while in Argentina it was an average of US\$13.4 (Correa and Ramos, 2010), resulting in remarkable differences in terms of overall costs and profit margins. According to Correa and Ramos (2010), one of the main reasons for this deficiency in logistical costs was the lack of multi-modal connections for the circulation of commodities; in other words, Brazil chiefly relies on a single-modal system based on roadways for the transport of grains (2010: 450). Despite this reliance on road transportation, in an effort to address this 'bottle-neck' created by Brazil's underdeveloped infrastructure network, one project in particular stands out, and that is the construction and pavement of a highway connecting the South-West and the North-East of the country: the BR-163 road.

The road-dominated transport matrix of Brazil is the result of historical and political conditions, particularly the development of the automobile industry and the low oil prices of the second half of 1950s, which incentivised the expansion of roadways. The concentration of industrial activity in the state of São Paulo in the Centre-South of the country, and the *rodoviarista* (roadway) culture, made it difficult to further integrate other parts of the country through the development of alternative transport such as railways (Correa and Ramos, 2010: 453). The resulting geography of UD meant that the Centre-West and North of the country suffered from a lack of connection to, and integration with, the economic and political power centres, due to the lack of physical infrastructure. During the 1970s, the military government developed a series of projects encapsulated by the *I Plan Nacional do Desenvolvimento - PND* (National Development Plan) and *II PND*. These programmes included the planning and construction of a series of roadways that would reach the most distant areas of the country. However, the Brazilian financial crisis in the 1980s left most of these projects unfinished.

One of these incomplete projects was the paving and opening of the BR-163 road that connects the South-West and North of the country. This road is

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3,467km long, stretching from Tenente Portela in Rio Grande do Sul, all the way to the port of Santarem on the shore of the Amazon River. It goes through the Centre-West of the country to the state of Pará in the North, hence connecting the main soybean-producing states of Mato Grosso and Mato Grosso do Sul to Santarem, a grain-handling port on the Tapajós River, in proximity to the confluence with the Amazon River. Figure 4.2 shows the route followed by the BR-163, with the green areas showing the agricultural lands from the year 2000, making visible the connection between the infrastructure project and the development and expansion of agricultural production. While the path for the road was planned and in fact opened during the 1970s, most of this route was not paved, and even today a large section in the state of Pará is unfinished. The project of re-paving this road was linked to the construction of a grain terminal in Santarem belonging to Cargill, one of the world's largest agricultural traders (Barbosa, 2015). The BR-163 offered the possibility of a cheaper route for soybean produced in Mato Grosso and other states in the Centre-West towards export markets, and the Cargill terminal facilitated the way to the Panama Canal and offered an alternative to the already saturated Southern Brazilian ports.

At the end of the 1990s, agriculture began to yield increasingly large surpluses and a new era of agro-exporting was inaugurated. This was consolidated during the first term of President Lula da Silva, and under his government the project to pave the BR-163 was re-instated, along with other infrastructure projects intended to support the expansion of the agricultural sector and the production of soybean in particular. The large volumes of grains being produced and exported demanded the development of more diversified points of trading, as well as cheaper alternatives for exporting. The main ports used here were Santos - close to São Paulo - and Paranaguá, in the state of Paraná, south of São Paulo. The movement of production towards the Centre-North of the country has created the need to find export points in the North of the country, especially given the saturation experienced by the Southern ports

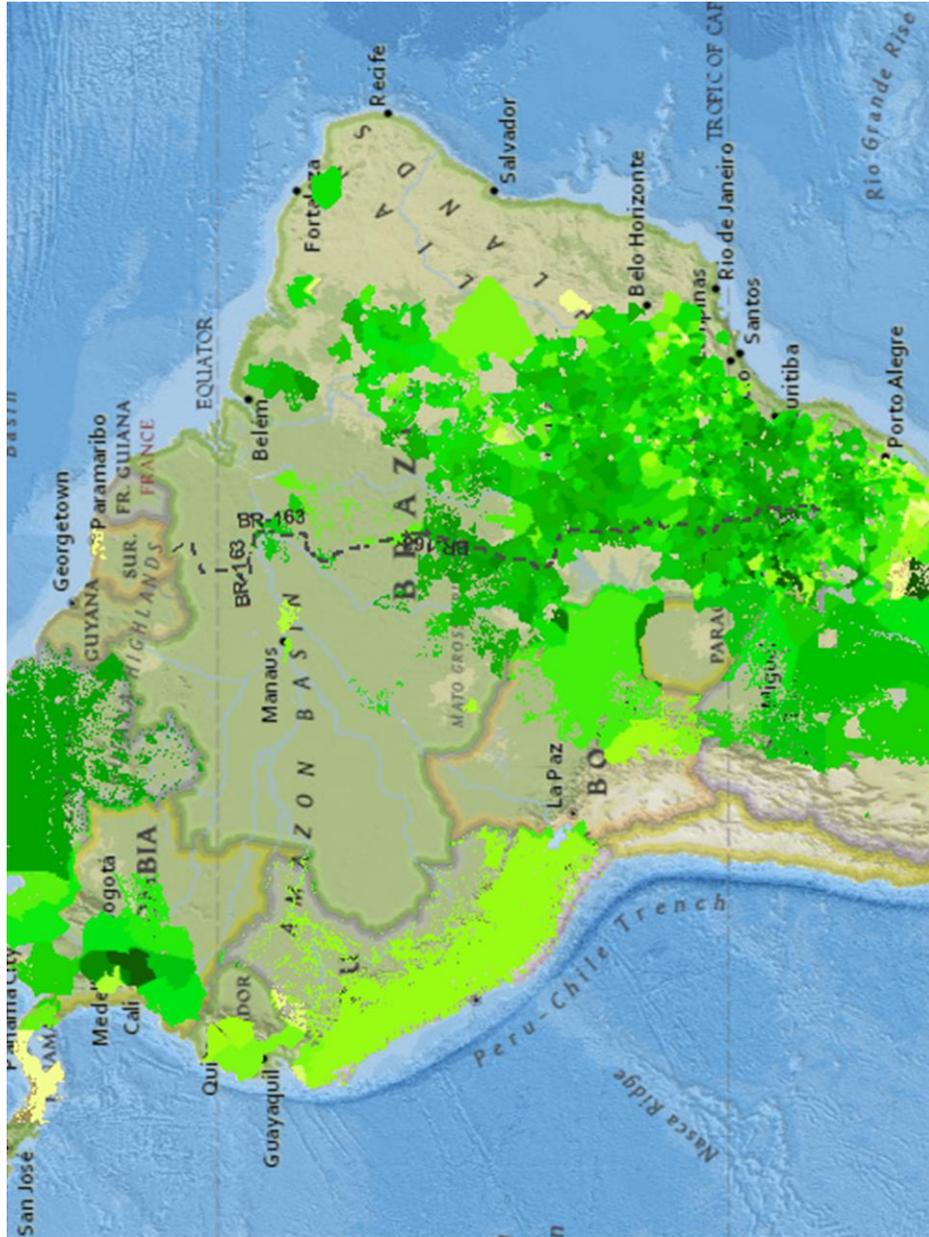
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(interview SPE, 2014; Chatham House, 2017). Increasingly more soybean is exported to Asia through the port of Belem and Santarem in Pará, and Porto Velho in Rôndonia. Access to these points is available through the Amazon River, hence motivating the creation of a route that provides entry to this area.

The development of the BR-163 was the result of active involvement from the national and regional states as part of the overall policy of support for soybean production and the expansion of the agricultural frontier. It is therefore, to a great extent, a state-led strategy of reterritorialisation. The projects under the Development Plan (I PND and II PND) were recovered and re-instated during the governments of Fernando Henrique Cardoso and Lula da Silva's. Initially, the project raised concerns among environmental and grassroots movements over its environmental impacts, namely the expansion of deforestation in the Amazon. This led Lula's government to set up an Inter-ministerial Working Group in charge of designing a Sustainable Development Plan for the Area of Influence of BR-163 (Barbosa, 2015: 87). Moreover, economic diversification became one of the pillars of the Pará state government, which therefore incentivised the cultivation of soy, exploration of new resources, and in general privileged the interests of soy-related businesses (Vegas Leão and Bandeira, 2012: 1-2).

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Figure 4.2 Highway BR-163 and areas of soybean and global crop area.



Source: Own map generated with software ArcGIS.

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While the state was a key actor in enacting this project, it was the dynamics of capital accumulation that highlighted the need for such an infrastructural development. This was chiefly achieved by transforming Santarem into an emerging alternative hub for soybean processing and trading. The most evident example is the aforementioned construction of a Cargill Agricola S.A. terminal for grain handling in the Port of Santarem, which until that moment had only one terminal, increasing the volume of annual loads at a mean rate of 7.4% since the beginning of its operations in 2003 (Labtrans, 2013: 90).¹⁵ Additionally, pressure from the business sector was organised through farmers' associations, and it boasted the highly significant support of Blairo Maggi, mentioned above, then Governor of the State of Mato Grosso and owner of the soybean-producing Amaggi Group. Maggi proposed, in 2003, that the pavement of the BR-163 was done under the *Parceira Publico-Privada* – PPP (Private-Public Partnership framework), an initiative through which the federal, regional or local government was able to sign a contract of services with a private company (Portal Brasil, 2012). In this case, the partnership would include ADM, Cargill, Bunge, Dreyfus, Amaggi, and Sumitomo, which would have received the right to charge tolls on the BR-163 in exchange for a multi-million dollar investment (Barbosa, 2015: 91). However, opposition to this project made it difficult to pass in the legislative branch and eventually Lula Da Silva's government secured federal funding to start pavement in 2009 through the *Programa de Aceleração do Crescimento - PAC* (Programme of Acceleration of Growth).

Besides its impact on the speed and cost of the circulation of soybean, the finalisation of the BR-163 and its full functioning will bring about transformations in the environment surrounding this construction. Correa and Ramos (2010) warn about the wave of investments that could flow into the

¹⁵ Currently the terminal handles soybean and corn. Most of the grains come from the state of Mato Grosso, 80% in trucks until Porto Velho or Miritituba and from there in barges until Santarem; while the remaining 20% arrives through the BR-163 directly to the terminal (Cargill Brasil, 2017).

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state of Pará where the road crosses, and the likelihood of further deforestation in a region that lacks effective governmental control (2010: 463). This absence of law enforcement, also highlighted by Fearnside (2007: 602), was apparently 'solved' with the implementation of frameworks of 'environmental governance' that, as Brenda Baletti (2014) argues, have had dubious results for the conservation of the local environment. According to the author, these frameworks not only failed to disincentivise deforestation, but also created impacts on the local community, due to the displacement of subsistence farmers, and political structures, as it contributed to the consolidation of power relations benefitting trading companies. This analysis clearly shows the ways in which the production of space is determined and can in turn determine social and economic relations; or, in the words of Soja, how production of soybean is both 'space-forming and space-contingent' (Soja, 1989: 126).

The project to finalise the pavement of the BR-163 and make it fully functional tackles one of the main obstacles for the expansion of agribusiness in general and soy in particular in Brazil. By reducing transport costs as well as facilitating the incorporation of new territories into the agricultural frontier, this 'commodity corridor', in a similar fashion to the 'commodity city', both accelerates and expands soy's process of accumulation. The 'annihilation of space' between the South-West and North of the country also involves the creation of new natures, as deforestation advances and the biome of the Amazon is transformed; new regionalities, with the settling of displaced communities in close proximities to the road, as well as farmers coming from the South; and new scales, with the production and trade of soy acquiring new dimensions as it drags the subnational states into its circuit.

While initially planned for integrating populations in the Centre and North of the country, the recovery of the BR-163 project responded to imperatives in the process of capital accumulation linked to soybean. Today, the 'soybean corridor' enhances the mobility of soybean production, while leaving an

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indelible mark on the landscape of the Brazilian Amazon. A study proved that the transport of soybean from Mato Grosso to the Santarem Port – compared to southern ports of Santos and Paranaguá – would represent a 20% reduction in costs (Correa and Ramos, 2010: 461). An expansion of Cargill's grain handling terminal in Santarem was started in 2014, which allowed for an increase in the loading capacity from two million tonnes a year to five million tonnes annually (Cargill Noticias, 2014). In this sense, the BR-163 is less a project of social integration at the national level as originally conceived, and more an attempt for national economic integration into the global scale.

Soybean's fleet and the Paraguay-Paraná waterway

As a land-locked country, the development of transport infrastructure that allows the circulation of goods is essential in Paraguay's economic performance. This is especially the case since growth in the Paraguayan economy has been mainly driven by the export of soybean, which, alongside beef, represented 38% of its total exports in the first eight months of 2015, according to the World Bank (World Bank, 2015). Paraguay produced over 9 million tonnes of soybean in 2013 (FAOSTAT, 2017) of which 7.5 million were exported abroad (UN Statistics Division, 2016). Hence, connections between soybean growing areas and maritime ports is a priority for the accumulation process associated with this commodity. Costs also play an important role in the decision to privilege the use of waterways for this purpose, as it is cheaper for transporting large volumes of grains.

Paraguay depends heavily on its navigation routes to dispatch its produce to international markets. Some of its production goes to Brazil on trucks, usually to be processed and consumed domestically there. However, 75% of its foreign trade is transported through the fluvial route (IADB, 2013: 3), particularly via the Paraguay-Paraná River way to the ports of Montevideo in Uruguay, the Rosario area in Argentina, or Paranaguá and Rio Grande in Brazil. Approximately 80% of its soybean exports find their way out of the country

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through fluvial means (CAF, 2009), and in turn the oilseed represents around 55% of the total fluvial exports (ABC Color, 2015a). Hence, Paraguay depends greatly on the La Plata basin for the circulation and transport of its produce to different distribution points. This has encouraged the development of a great barge fleet, as well as the installation of several ports along the shores of the Paraguay and Paraná rivers.

The need for navigation as a channel to export its products has incentivised Paraguay investment in barges, and the country now has the third largest fleet of river barges in the world (Trepowski et al., 2014: 60). Indeed, the barge industry itself has become a significant source of economic activity, contributing 3.8% of Paraguay's GDP in the five years between 2008 and 2012 (Trepowski et al., 2014: 60). According to the Paraguayan Institute of Economic Research (IPIE), in 2014 Paraguay had 2,346 barges – dry, liquid, and tugboats - 15% more than in 2011 (Trepowski et al., 2014). This transportation infrastructure allows the movement of large volumes and loads, making it the most cost- and time-efficient way to dispatch soy from the country towards its export markets. The development of this large fleet and the installation of numerous shipyards in the country - increasing from two to eight in the last four years - is largely perceived as one of the best examples of the success of the Paraguayan soybean sector and the spill-over effects it has had in the local economy (interview UGP(a), 2014; interview IPIE, 2014).

The existence of a large barge fleet and the dominance of fluvial transportation for the expanding soybean production has also entailed the development of inland port infrastructure in Paraguay. According to the Latin American Development Bank, Paraguay has 44 private ports and eight public ports, the most important ones being Asunción, Concepcion, Pilar, and Villeta (CAF, 2009). These are mostly located on the margins of the Paraguay and Parana Rivers, where many fluvial ways in the Eastern region of the country (the region that currently hosts the main soybean production areas) flow into. The Paraguay-Parana River system is thus the main channel for international

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trade, both due to its location close to important production areas, as well as its connection to the River Plate Delta and consequently to the ports of Rosario (Argentina) and Nueva Palmira (Uruguay), which are suitable for bulk cargoes, Paraguay's main form of export (Wilmsmeier and Sanchez, 2009: 50). Already in 2007 over 13 million tonnes of grains were being transported through the Paraguay River, with an increase of 30% expected the following year (CAF, 2009: 16-17). This figure is likely to be considerably higher today, taking into account both the increase in production of soybean in Paraguay and the number of barges acquired by the country in the last four years.

Paraguay's position as a landlocked country reliant on primary exports highlights the need to develop a system of well-connected transport links that connect the economy to global markets. One of the main challenges in this regard is the country's lack of direct access to maritime ports. However, Paraguay does boast its own port installations in Nueva Palmira in Uruguay, Rosario and Buenos Aires in Argentina, and Santos, Paranaguá, and Rio Grande in Brazil (CAF, 2009). In this case, national space is not determined by the political borders of its territory, but these places in fact act as extra-territorial spaces for the Paraguayan state. These areas are managed by the National Administration of Navigation and Ports, though some of these facilities are not actively used by the landlocked country, especially the free port area in Rosario. Only in 2016, authorities from Paraguay and Argentina started to discuss the reactivation of the Paraguayan free zone, potentially a key space for the facilitation of soybean exports (La Nación Paraguay, 2016). The Paraguayan state's reterritorialisation strategies – through their fixed capital investments in foreign ports – are simultaneously deterritorialised from the actual Paraguayan national territory.

In the effective use of these spaces, however, the Paraguay-Parana waterway is key, as it provides cost and time-efficient access to these distribution points. This waterway is, on one hand, the main channel for the realisation of profit from the country's second main export product – soybean – and, on the other

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hand, the source itself of Paraguay's principal export product – energy – which is provided by the electrical dams of Yacireta and Itaipu. As such, this fluvial system lies at the heart of Paraguay's capacity for redefining its spatial political economy.

The great distance between sites of production and overseas shipment and the lack of direct access to ports directly increases Paraguay's transportation costs in relation to its neighbouring competitors. The Development Bank of Latin America (CAF) highlights that the cost of transport of goods per tonne to and from Paraguay is higher than any other country on the American continent (2009); and in a report on logistics inefficiencies in land-locked countries in South America, ECLAC establishes that fluvial transportation generates most of the additional cost in the transportation of commodities (meat and soy in this analysis) (Salas and Gonzalez Ramirez, 2014).

These two key obstacles to the cost effective transportation of large volume of goods – particularly soybeans – are to be addressed through the proposed solutions of greater intervention in the river way through works of dredging, and increasing signalling and using of lights with the purpose of a 24-hour navigation. Already, droughts in the area have reduced the maximum draft (CAF, 2009), particularly in the region of Asunción. The Pilcomayo River, part of the waterway complex, has been particularly badly hit by the lack of rains, with reports stating the river was '60 per cent sediment and 40 per cent water' (Desantis, 2016). Overall, the improvements deemed necessary would provide increased draft of the rivers, wider canal breadth, enabling navigation of larger convoys and 24 hour navigation (Wilmsmeier and Sanchez, 2009: 54). These changes are supposed to reduce fluvial transport costs by up to 33%, with a potential to be reduced by 50% 'under optimum conditions' (2009: 53). Similar to the cases of Argentina and Brazil, the imperative to reduce costs and increase profit margins has resulted in deep imbalances in the geography of Paraguay.

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Its dependence on the Paraná-Paraguay waterway – a project promoted by the Inter-American Development Bank (IADB) and the United Nations Development Program (UNDP) – only incentivises further works on the rivers as well as creating pressure to increase the volume and traffic along these waterways. The production of new spaces for expanding capital accumulation is thus not only pursued by the national state, but other public authorities at different scales also actively engage in this process, including international and regional organisations. Kneen (2002) highlights the fact that environmental and economic impact studies requested by these international bodies were quickly dismissed at the outset of this programme because they failed to provide an estimate of the potential impacts. As environmental organisations and independent researchers pointed out, the idea that engineering work on such a scale could have only minor effects on the environment shows a lack of understanding of the complexity and interconnectedness of the waterway ecosystem (2002: 9). The negative spill-over effects consist of loss of flora and fauna diversity, as is already being demonstrated in the Pilcomayo River, where yacare caimans and other animals are dying. This degradation of the local ecosystem adds to the damaging consequences suffered by local populations as well, as residents with cattle ranches struggle to provide fresh water for their livestock (Desantis, 2016). This scene of ruination starkly contrasts with the massive profits accrued by the region's agro-exporters.

Beyond the segment on Paraguay being addressed here, the Paraguay-Paraná waterway hub involves five countries and covers an area of influence of over 2 million square kilometres. As such, this space is one of the axes of the *Integración de la Infraestructura Regional Suramericana* (IIRSA) initiative (Integration of the Regional Infrastructure of South America), and within it five sub-areas are identified, each with strategic functions and a number of infrastructural projects to be deployed so as to expand the potential of the area for the transport of energy and natural resources (IIRSA, 2013). This complex plan of infrastructure projects was agreed at the First Summit Meeting of South

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American Presidents, which was later incorporated into the more institutionalised South American Council of Infrastructure and Planning, as part of the Union of South American Nations (UNASUR). The pursuit of these projects will situate the waterway and South America regionally, as an access point to natural resources, and globally, as a strategic point of connection between Europe and Asia (Barkin, 2009: 6).

The development of an extensive barge fleet and the constant works on the river ways that go through Paraguay cannot be comprehended without taking into account the country's increasing dependence on the export sector, dominated by soybean production. The Paraná-Paraguay basin is transformed – even *produced* – as a commercial network and as a strategic structure for the circulation of commodities and the realisation of their exchange-value. State, private sector and international organisations have interacted to facilitate its consolidation. Public institutions are pushed into increasing and maintaining the intervention on the river ways in order to assure the rapid and straightforward navigation of private capital, on the promises of positive spill-over effects for the national economy, while ignoring the possible impacts on the environment and local populations. What this represents is the strategic deployment of processes of reterritorialisation in order to enhance commodity mobility and connect the national and global scales – thus etching deep groves in Paraguay's geography that will last as historical artefacts of the soybean boom.

Conclusion: 'Expanding possibilities and profit potential' – the globalisation of the 'Soybean Republic'

This chapter aimed to understand physical geography, particularly transport and logistics infrastructure, as a fundamental element of the South American soybean complex. By doing so, it shed light on the overall system of production of wealth in the aforementioned sector, the role of the state in providing infrastructure, and the geographies that emerge from this booming industry.

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The centrality of logistics infrastructure in the creation of wealth in the soybean complex is clearly explained by a manager of agribusiness company Nidera:

When you think about the world of commodities you have two blocs that are very important: crushing; and the other one, logistics. And you need investments in both of them. These are businesses of high rotation and low [profit] margins. Anything that accelerates rotation, is welcomed. Anything that threatens the [profit] margins, you want to avoid. Faced with fluctuations of the commodity, there are some elements that are stable, and as time goes by, they can have a great impact on the [profit] margins, such as the cost of freight ... the efficiency of ports... (interview Nidera, 2014)

This evidences the significance of infrastructure and all built environment for the ‘annihilation of space by time’, meaning, increasing turnover time, in order to reduce costs and expand profit margins. The analysis presented in this chapter provided key insights for answering the research question of this thesis, namely, how states govern the creation of wealth in the context of a commodity boom, and more specifically, the spatial dynamics that emerge in that process. Through examples from each of the countries studied, this chapter unpacked the ways in which the creation of built environments supports and expands capital accumulation in the soybean complex.

Fixed capital is a necessary condition for all modes of production. Yet within the capitalist economy, the built environment needs to support not only the production of use-values, but the constant expansion of production to serve the accumulation of further exchange-value. The cases of the Gran Rosario complex in Argentina, the BR-163 road in Brazil, and the Paraguay-Paraná river way are key examples of how the soybean economy has created a particular built environment – rooted in specific national territories – for the sole purpose of faster circulation of larger volumes of soybean from its production sites in the Southern Cone, to different points in the global value chain.

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This chapter first analysed the Gran Rosario hub, where dynamics of concentration and centralisation of capital have succeeded in consolidating a logistical and industrial commodity hub used almost exclusively for the processing and handling of soybean grains. Referred to by some as the 'Chicago of South America', in just 80km of space, Gran Rosario boast the capacity to export 80% of Argentina's soy grains and by-products – one of the world's largest net exporters of agricultural commodities. The agglomeration of immense capital and wealth in this area is in sharp contrasts to the difficulties experienced by the local population, who have been exposed to polluting waste and have been unable to access security or health services due to the overwhelming presence of soybean cargoes. Next, it examined the case of the re-pavement of the BR-163 highway in Brazil, connecting the South and North-West of the country, and passing through the Amazon. The finalisation of this road will give soybean producers in the Centre-West of Brazil cheaper and more direct access to foreign markets, at the same time as opening up a new region to the advancement of industrial agriculture. It has also contributed to the transformation of the Centre-West from a 'forgotten' region at the periphery of the Brazilian political economy into a dynamic zone central to the national and global economy. Moreover, authors such as Fearnside (2007) and Correa and Ramos (2010), as well as environmental organisations like Greenpeace (2006), have warned of the dramatic environmental and social consequences that could result from a disorganised and uncontrolled flow of investment in this area. Finally, the expansion of soybean production in Paraguay, and the country's rising dependence on the export of this oilseed, have created pressure for increasing human intervention in the river ways that surround the landlocked country, which are the main channels for the circulation of commodities.

The cases analysed here constitute part of the specific organisation of space created by the process of capital accumulation associated with the soybean complex. They are part of the spatio-temporal complex as, on one hand, they

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become part of the built landscape of the region – expressing the moment of *reterritorialisation* – while on the other, their main function is to facilitate the transportation of the commodity towards global markets, enabling its mobility – the moment of *detrterritorialisation*. The Gran Rosario logistic hub, the BR-163 and the Paraná-Paraguay waterway are part of the geography created by this process; yet at the same time these infrastructural developments contribute to the creation of new spaces, as other regions become accessible and the total cultivated area expands. They set in motion dynamics that create patterns of uneven development, expressed both in the consolidation of larger farms on the side of the BR-163 road in Brazil, and in the ruination of the ecosystems on the margins of the Paraná-Paraguay waterway in Paraguay. In these processes, states emerge as key in the enabling of these projects and consequently in the modality of accumulation; either through deregulation and the promotion of private governance (Argentina and Paraguay), or by directly financing these projects (Brazil).

The three cases presented in this chapter show that we cannot understand the development of the soybean complex by reference to transhistorical processes of humanity's agricultural interaction with nature. Rather it is *capitalist* agriculture, with its constant quest for higher profit rates, and its need for a fixed infrastructure which reproduces the circuit of capital, that have produced new natures, created new scales of economic activity, incorporated isolated regions into the productive sphere, and increased the volume and turnover time of the soybean complex. While capitalist agriculture demands the development of the built structures explored in this chapter, the production of wealth is also the result of capital's simultaneous capacity for mobility, which allows investment to flow to areas of high profitability. The next chapter will analyse the mobile nature of capital in the soybean complex, specifically through the analysis of financialisation, and hence understand how both fixity and mobility, while contradictory, create the necessary conditions for the expansion of capital accumulation in this sector.

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Introduction

In mid-2008, at least US\$ 200 billion were invested in derivatives based on commodities (Kerckhoffs et al., 2010). That same year, a food crisis triggered by surges in food prices extended throughout the Global South. It has been increasingly evident that these two facts are connected and that financial speculation in agricultural commodities has contributed to the rising volatility of food prices. This chapter explores the mechanisms and processes through which financial instruments have been linked to agricultural trade and production in the countries of the Southern Cone. As the examples mentioned show, these trends are part of a global phenomenon of financialisation linked to agricultural commodities. The previous chapter focused on how the expansion and enlargement of the built environment for the transportation of soybean was fundamental in the transformation of the commodity into its money form. This creation of fixed structures constituted strategies of reterritorialisation of economic activity that in turn made the trade of large volumes of soybean and the realisation of profits possible. In contrast, this chapter aims to highlight how the same objective – wealth creation – is achieved through an opposite but complimentary dynamic: capital's ability to move quickly from one asset, place, and scale, to another. The expansion of financial activities into industrial agriculture has heightened this mobility, as finance's virtual nature facilitates sudden and dramatic changes in the availability of capital from one sector to the other. Financialisation thus allows the 'freeing' of capital from a particular economic activity and the deterritorialisation of assets from a particular geographical scale in a way that physical infrastructure does not. In this sense, financial flows are constitutive of the seesaw dynamics of capital and patterns of UD.

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The mechanisms explored in this chapter represent different ways in which profits are increasingly earned through financial transactions, rather than production, and hence how transnational financial capital has penetrated the soybean complex. The growing participation of investment funds and international banks in the production of soybean, whether through rural credit, insurance, the banking system, or new investment arrangements, points both to the growing concentration and centralisation of capital in the soybean sector, and to the increasing deterritorialisation of profit-making from processes of agricultural production grounded in these territories. Similar to the dynamics analysed in the previous chapter, the processes studied here suggest the key role of the state as an enabler of the expansion of capital accumulation through financialisation. Through the deregulation of investment and renting conditions (Argentina), the financial support for credit and insurance products (Brazil), and the reliance on private governance of the banking system (Paraguay), the state is instrumental in creating the necessary conditions for the growing financialisation of the soybean complex.

This chapter explores how the financialisation of agriculture, and more specifically of the soybean complex in South America, enables capital's mobility and consequently creates uneven geographical configurations. The structure of this chapter is as follows: it will first give a brief overview of the context in which these dynamics have emerged globally; it will then focus on the different mechanisms of financialisation of agricultural trade, mainly the existing futures exchange markets and the possibility for new mechanisms at a regional level; and finally it will provide an analysis of the financialisation of soybean production in each country, with an emphasis on new structures of organisation of production in Argentina, issues of rural credit and insurance in Brazil, and the rise of foreign capitals in the Paraguayan banking system. The purpose is to show how the financialisation of the soy complex has enhanced capital mobility and thus transformed this industry's mode of accumulation by consolidating processes of deterritorialisation. Nevertheless, as this chapter

will demonstrate, deterritorialisation can provoke countervailing tendencies of reterritorialisation, as state and private actors in the Southern Cone attempt to assert control over this economic activity. In particular, while processes of financialisation may appear completely detached from state activities, the state has at times acted as both a facilitator of and obstacle to the emergence of these channels of profit creation through market making or regulation.

Financialisation of agricultural commodities: history and evolution

The term ‘financialisation’ has been subject to much debate about its significance and implications, and has been used to refer to a wide range of issues. The purpose of this chapter is not to explore all of the extensive literature associated with the term, but rather to analyse the increasing use of financial instruments in agricultural economy. This chapter will use Krippner’s definition of financialisation as ‘the tendency for profit making in the economy to occur increasingly through the financial channels rather than through productive activities’ (Krippner, 2011: 4). In the context of the agricultural economy, this conceptualisation reflects the increasing domination of financial over productive activity in the creation of profit, which highlights the need to explore the mechanisms through which such financial profits are generated, and the consequences it entails for the sector. In other words, finance, due to its mobile nature and multi-scalar capacity, creates lucrative revenue streams deriving from the global agriculture sector.

The relationship between agriculture and finance is centuries old (Clapp, 2012). It was the need for upfront capital for inputs like seeds and fertilisers that encouraged the establishment of derivative agreements: farmers would sell their harvest in advance as a way of covering initial costs. This contract, called a ‘forward’, would result in the actual exchange of the product for a price previously determined. For buyers, this transaction hedges against increase in prices as well as failure to deliver by producers; while for farmers, this protects them against sharp decreases in price. In this way, forwards act as insurance

for both parties, though in the form of a zero-sum game, as the increase or reduction of the spot price¹⁶ inevitably benefits one and hurts the other (Bryan and Rafferty, 2006: 42). Forwards are thus the most direct and simple form of a derivative.

In more general terms, derivatives are ‘financial assets whose price is based on the price of an underlying commodity, in this case agricultural crops’ (Fairbairn, 2015: 234). In addition to forwards, there are three key types of derivative: *futures* – agreements over the purchase of a commodity at a fixed price in the future; *options* – option to buy or not a certain commodity in the future at a price determined at the moment of transaction; and *swaps* – a cash flow to a third party as insurance over the financial instrument of the asset holder.

As these instruments emerged, so did new actors who were not directly involved in the food or agriculture sector: *non-commercial traders*, who became involved in the exchange of these contracts, not as a business insurance but as a speculative activity. Some have argued that these financial actors play a productive role, because they provide the market with liquidity, take risks in exchange for profit, and have a ‘price discovery’ function, since they usually reflect the information held by commercial traders and can provide direction on planning for farmers and other actors within the productive chain (see Clapp and Helleiner, 2012: 186; Fairbairn, 2015: 235). On the other hand, financial derivatives are not free of risk; sellers are not required to own the asset over which the derivative is based on, and hence big losses or gains can be made from small investments. These two elements make it a rather attractive activity for speculation and, as such, there is a tendency

¹⁶ Spot price is the price of a commodity or financial asset when it is traded immediately. It is the price at the moment of the transaction, different to the future or forward price, which refer to the price at which the commodity will be sold at a future point in time.

towards the increasing detachment of these contracts from the real products they are supposed to be related to.

The links between the financial sector and agriculture began to intensify in the 1990s and the extent of this connection became quite evident with the food price crisis that erupted in 2007-2008. Many analysts presented this event as a *fundamentals* crisis, implying that it was related to changes in the global supply and demand of agricultural commodities and levels of international stocks, aggravated by a diversion of resources to the production of biofuels (Clapp, 2012: 129-132). However, Clapp argues that there are indicators pointing to another factor in the context leading to the crisis, 'an additional ingredient to the perfect storm' (2012: 134), namely the increasing role of financial markets. This crisis triggered an interest in the links between food/agriculture and finance, and the food crisis has also been highlighted by several authors as evidence of the significant consequences that the financialisation of agricultural production has had for the global food system (Clapp and Helleiner, 2012; Fuchs et al., 2013; Fairbairn, 2014; Isakson, 2014).

Clapp and Eric Helleiner (2012: 189) point out that some analysts had started to use the word financialisation in reference to commodity markets before the food crisis. This observation originated in the progressive deregulation of the agricultural derivatives market in the US and the increasing role of non-commercial actors in the creation and exchange of these instruments. Some of these deregulatory measures included the explicit prevention of regulation of over-the-counter (OTC) swap derivatives linked to commodity markets, which had been offered by banks since the early 1990s; and the expansion of exemptions given to financial institutions to increase the number of their position limits – meaning, the number of derivatives and commodity-based financial titles institutions are allowed to sell and trade (Clapp and Helleiner, 2012: 187). As a result, the volume and variety of agricultural derivatives expanded rapidly after the 2000s with limited control or oversight by regulators (Martin and Clapp, 2015: 554). Increasing

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deregulation combined with financial actors' growing interest in commodity-based instruments as a source of higher profits and diversification (Geman, 2015: 13) pushed the number of assets in Commodity-Index Funds (CIFs)¹⁷ to over US\$ 200 billion in mid-2008, from only US\$ 15 billion five years before (Clapp and Helleiner, 2012: 188).

Several financial actors have been incorporated into the agricultural sector through its increasing financialisation. Banks, for example, began to sell CIFs which followed the prices of several commodities, of which agricultural products usually constituted around a third, thus offering investors exposure to these markets without actually buying any asset (Clapp, 2014: 802). In turn, banks were driven into hedging the risks of offering such products by investing in the futures markets themselves (2014: 802). Investment in farmland and agriculture-based companies have also drawn the attention of several institutional actors such as pension and hedge funds, university endowments, private foundations, life insurance companies and sovereign wealth funds, (Clapp, 2014: 803; Fairbairn, 2014: 778). The presence of these actors was further fuelled by the price spike experienced after 2002, in which financialisation played an important role, hence forming a cycle of reinforcing dynamics. The presence of these financial institutions has transformed the food chain in its entirety, from the control of land by large transnational companies to large food retailers being increasingly driven by the 'shareholder value' principle or being acquired by private equity funds. This has in turn affected the functioning and stability of actors at every stage of the production chain (Isakson, 2014; Burch and Lawrence, 2013).

The financialisation of agriculture has not only been characterised by the integration of non-agricultural actors, but also by the transformation of

¹⁷ Commodity Index Funds (CIFs) are derivatives which are linked to prices from a number of different commodities, usually agricultural commodities, minerals, livestock and petroleum products; with agricultural commodities generally making up a third of it. CIFs provide exposure to commodity markets by following broad movements in prices without having to actually realise any purchase of commodities (Clapp, 2014: 802; Irwin and Sanders, 2011).

agricultural players into financial operators. Murphy et al. (2012) have identified this development, pointing to how transnational trading companies – namely the so-called ABCDs¹⁸ – have benefited from their status as *commercial traders* to offer financial services to third parties and managing funds as a mechanism for hedging their own risks as well as expanding their profits.

The complexity and scope of financial actors and instruments linked to the agriculture and food complex have deepened dramatically since the 2000s. These dynamics have created processes of rescaling at all stages of the food production chain, with sources of finance for production and trade coming from foreign and sometimes non-identifiable sources. Some of these processes involve the governance of food chains being driven by demands of shareholder value, or land becoming dislocated (or deterritorialised) from its local and absolute location to be rescaled into a regional or global accumulation process, through processes of corporate acquisition known as ‘land grabbing’ (Sassen, 2013).

These changes have also been evident in institutionalised commodity exchange markets, which were initially small associations that subsequently evolved into large, publically traded corporations (Martin and Clapp, 2015: 554). The most important of these exchange markets is the Chicago Board of Trade (CBOT). As Hieronymus explains, the history of agricultural commodities futures trading is inextricably linked to the creation and evolution of the CBOT (Hieronymus, 1977: 72). Chicago’s key location in proximity to the fertile lands of the Corn Belt and the water channels made it the main centre for the exchange of commodities in the first half of the nineteenth century. CBOT was established in 1848 and the market quickly evolved from the exchange of simple forward contracts to futures, options and

¹⁸ ABCDs is the acronym used to refer to the ‘big four’ agricultural trading companies which largely dominate the commodity trading market. The acronym stands for the initials of these companies: Archer Daniels Midland (ADM), Bunge, Cargill, and Louis Dreyfus Company (LDC).

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swaps (Fairbairn, 2015: 235). This institution is now part of a larger corporation, the CME Group, which also includes the Chicago Mercantile Exchange, the New York Mercantile Exchange and the Kansas Board of Trade (Martin and Clapp, 2015: 554).

The CBOT is the most important commodity exchange market in the world, both in terms of volume of exchange as well as in value. Its dominance is inevitably a reflection of the US' share in the physical market for the production and trade of soy, wheat and maize. The board sells a number of agricultural futures, of which soybean futures have been the most numerous contract exchanged there. These instruments, as the CBOT claims, 'allow hedgers and traders to *capture* the special economic relationships that exist among soybeans and the two principal soybean products throughout the production, processing, and marketing processes' (CBOT, 2005: 2, emphasis added). Through the purchase of such contracts, individuals or financial institutions are thus capable of controlling part of the production of, and generating profits derived from soybean and other grains. Through these mechanisms, profits are created on the expectation of profits, which further dislocates the process of capital accumulation from agriculture's use value.

Overall, there is extensive evidence pointing to the expanding process of financialisation of agriculture. While this may have become most apparent during the food price crisis of 2007/2008, the conditions for the increasing role of financial capital in the agricultural economy were set earlier. The state played a fundamental role as both regulator and controller of this process. Academic interest has also followed the questions emerging from the global food crisis; however, it has focused chiefly on developments in the Global North, mainly the US, Canada and the EU, thus neglecting a large geographical area with a pivotal role in the current food system. It is also worth noting that while the CBOT is still secure in its leadership among exchange markets globally, alternative institutions, such as the Dalian Commodity Exchange, are emerging worldwide with an increasing role in agricultural future trades. This

is evidenced by the fact that the Dalian soy meal future is the most traded contract in the world (Meyer et al., 2017). The growth of the Chinese market in particular has been mainly driven by the trade of soybean and soybean oil derivatives, and saw a 68.7% increase in 2009 (Burghardt and Acworth, 2009: 25). The following sections will explore how the development of financial derivatives and other financial instruments have impacted upon the soybean and - more broadly - agricultural complex in South America.

Financialisation of trade

In order to understand the different ways in which financial capital has made its way into the agricultural sector in South America, this chapter will differentiate between the process of financialisation of soybean trade and financialisation of soybean production. These two aspects are closely connected: the creation of a futures market for the trading of soybean served as a source of finance and risk management for businesses involved in the direct production of soybean. By distinguishing between the use of financial instruments in the trading of soybean and the role of financial capitals more directly in the production process, it is possible to understand the different dynamics through which the process of deterritorialisation creates new spaces, links different scales and contributes to the emergence of patterns of UD. This will be done by first focusing on the emergence of national markets for the exchange of soybean derivatives and their functioning in South America; second, by analysing the relationship of these institutions with the dominant exchange market globally, the CBOT; and finally, by addressing the possibilities for the emergence of a regional commodity market exchange. It will be evident from this section, then, that the spatial dynamics engendered by an increasing presence of finance in agriculture in the Global North have had similar effects on soybean production in South America – such as higher vulnerability to speculative movements in price and availability of liquidity – while also provoking other rescaling dynamics at the regional level.

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The existing literature has focused more on the financialisation of trade, the historical progress of which was examined in the previous section. The creation of agricultural derivatives was a response to trends in the global political economy, and their role in South America is inextricably linked to these developments. Financialisation of production, on the other hand, has attracted less attention. One of the reasons for this being, as Visser et al. put it, that the 'private financial sector is usually cautious to *invest* in actual agricultural production yet eager to *speculate* in related derivatives markets' (Visser et al., 2015: 545, emphasis original). The role of financial capital in production has thus been more timid, but has nevertheless expanded in the last ten years given the potential for profit that the sector has offered.

South American markets for agricultural derivatives

There are three main markets for futures in the countries that concern this thesis: BM&F Bovespa, based in São Paulo, Brazil; the Rosario Futures Exchange (ROFEX) and the Buenos Aires Futures Exchange (MATBA), both in Argentina. Paraguay is the only country that does not have a market for futures of its own.

BM&F Bovespa is one of the largest exchange markets in the world, ranking higher than ROFEX and MATBA in the Futures Industry Association (FIA) ranking. However, soybean's share in this market is rather small compared to other contracts - both agricultural and others - and it is traded at a similar volume to Rosario and Buenos Aires. In 2012, commodities contracts in BM&F Bovespa represented only 0.4% of the total of contracts negotiated that year; and of that, 2.5% were soybean contracts (including futures, put and call options) (BM&F Bovespa, 2017). Agribusiness actors in Brazil do not consider this exchange to be particularly relevant and in general express a preference for using Chicago's futures exchange (interview FIESP, 2014; interview MAPA, 2014; interview SPA, 2014). This reflects the largely global vision held by the Brazilian private sector, which is generally more concerned with enhancing

the position of Brazilian soybean on the global scale, rather than developing alternative spaces for financial development nationally or regionally.

Argentina's two futures markets are much more heavily influenced by soybean production, and the volume of contracts traded reflects this. ROFEX (Mercado a Termino de Rosario S.A.) was founded in 1909 with the aim of providing a market for the exchange of futures and options contracts based on commodities in Argentina. It is located in the city of Rosario, the main centre for agricultural trade in the country. Often referred to as 'the Chicago of South America', it bears many resemblances with the North American city, due to its key location in relation to both production centres and global markets, which has contributed to its consolidation as the hub for trade and distribution of agricultural production (see Chapter 4).

While also trading wheat and maize, the most important commodity traded in ROFEX is soybean, and the organisation offers four different contracts, varying in size and delivery type (the contract is either realised by delivering the actual commodity or the cash from its sale).¹⁹ The availability of multiple types of contracts is reflective of the expanding role of this commodity in the financial market, as more options means that soybean derivatives can be purchased for different purposes or by actors with different interests. This is reflected too in the *number* of contracts traded in ROFEX, as operations in the Division of Agricultural Derivatives grew consistently since 2009, chiefly through the increase in soybean contracts, which in 2014 represented more than half of all agricultural futures traded (ROFEX, 2017; Marcus et al., 2010).

ROFEX also trades a Chicago soybean contract, a derivative liquidated by the international benchmark of the price of soybean futures in the Chicago Market

¹⁹ The contracts available on soybean are Soybean (U\$S), Rosafe Soybean Index, Soybean Up River and Soybean Chicago. The Soybean contract is by delivery, while the Rosafe Index is cash-settlement only. In 2011, ROFEX launched the Soybean Chicago contract, a smaller contract, for only 5 tonnes to exchange soybean futures from the Chicago Mercantile Exchange (CME). All other contracts are for 30 tonnes (ROFEX, 2017).

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Exchange (CME). This contract can be negotiated not only as an agricultural derivative, but also on the market's Division of Financial Derivatives, and as it does not require delivery of the product, it can be incorporated into a larger investment portfolio (ROFEX, 2016). This instrument thus further severs the connection between the concrete, use value aspect of soybean production and the exchange value that the soybean commodity represents. In this sense, such a derivative signifies an enhanced deterritorialisation of profit-making from the territorially-based process of agricultural production, as well as demonstrating the global scale of ROFEX' operations.

MATBA is the second largest market for agricultural commodities derivatives in the region. Most of the contracts traded in MATBA are agricultural derivatives: wheat, maize, soybean, sorghum, sunflower, barley, soybean oil and an agricultural commodities index – or *Indice de Commodities Agrícolas* (ICA) in Spanish. A contract for the dollar is the only non-commodity based product. While ROFEX presents itself as the main player in commodity futures in Argentina, MATBA has evidently been more dominant, particularly when looking at the volumes traded in each contract, and more specifically in soybean. MATBA's own analysis shows that in the second half of the 1990s, the institution was more dynamic than ROFEX and even the São Paulo exchange (BM&F Bovespa) (Wolberg, 1998). In 2010, out of a total of almost 20 million tonnes of agricultural derivatives, 15 million tonnes corresponded to soybean contracts. The market reached a peak in 2012, when over 25 million tonnes of soybean contracts were negotiated, a ratio of over 50% relative to the 40 million tonnes of soybean produced that year (MATba Datacenter, 2016; Direccion de Estimaciones Agrícolas y Delegaciones, 2017).

In this sense, Argentina's two major markets for futures differentiate themselves from both Paraguay and Brazil – as the former lacks markets of this kind altogether, and the second appears to privilege the US for agricultural derivatives. Moreover, Argentina's markets are dominated by soybean, and have found their dynamism and expansion largely thanks to the oilseed and its

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by-products. By 1999, soybean futures were already performing remarkably well in international markets, which led analysts at MATBA to consider the soybean-based products to be one of the most important strategic products in the domestic and international future commodities market, with a 'consolidated present, and promising future' (Wolberg, 1999: 14).

Markets for derivatives constitute a crucial space in the Argentine soybean complex. The growth in volume and value of both ROFEX and MATBA confirms the expanding role of soybean as a source of profit for financial markets and as an influence on the physical market through price discovery. Certain evidence suggests that there is increasing interest in buying soybean contracts not with the intention of acquiring the physical product, but as purely profit-making exercise. For example, only 2% of commodity futures contracts globally end with delivery of the physical good (Thomson and Dutta, 2015: 23). However, this has not been a linear tendency; rather, the trade of futures and options has largely followed trends in the international price of commodities. As ROFEX notes, the ratio of production/volume of futures and options traded for soy, wheat and maize has settled around 30% in 2016, after having reached the maximum of 50% in 2011-2012 (ROFEX, 2017), a time when the international price of soybean was escalating and reached its peak in July 2012. That means that during 2011-2012, the volume of soy traded through derivatives was equal to half of all grain production in Argentina. Financial instruments have had an increasing role in soybean markets at the regional and national level, as well as the global; and as prices rise, production expands, and the presence of speculative capitals through derivatives markets enhances the volatility that already characterises this sector.

The Chicago Board of Trade and its role as a global price-setting space

As described in the section above, CBOT has historically been the leading market in the exchange of commodity derivatives worldwide. This is the result of the volume of contracts negotiated there, which in turn is linked to the US'

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productive and export capacity. Its influence comes from its position as an international benchmark and price setter for all the other financial and physical transactions in the sector. The 'exclusive and pure' price of soybean – and other commodities – is defined by Chicago (interview Molinos, 2014). While considered *international*, implying it is the expression of global trends in supply and demand of soybean and other commodities, the CBOT's price-setting capacity demonstrates Chicago's – and more generally the US' – authority in the governance of the agricultural commodities' market. The US domestic conditions do not only determine the international benchmark for agricultural commodities derivatives, but the institutional infrastructure is also immersed in the US' regulatory context, reinforcing the US state's capacity to influence this global market. This domination by a specific state power hints at the groundedness, or *reterritorialisation*, of the globally agreed value of agricultural commodities. This territorial power is exercised across multiple scales, as the price determined by the CBOT is also used as a reference for regional and national markets, as the section above has shown, with ROFEX selling contracts based on the US institution's benchmark.

In smaller markets outside the US, such as ROFEX and MATBA, the price established in Chicago – termed the *flat price* – is only part of the component of the final price. A second element – called the *premium* – contributes to the final price of soybean at the national level. This premium is determined by domestic conditions, particularly in large producing countries such as Brazil and Argentina, such as logistics, regional factors such as location and climate, or conditions of production. These can push the final price upwards or downwards, by adding to or subtracting from the flat price. For example, the premium will be negative during times of harvest in South America when there is more availability of soy, hence driving down the CBOT flat price. In a sense, the premium acts as a rescaling mechanism by emphasising domestic and regional variables, such that the final price of soybean reflects conditions at a variety of geographic scales.

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Not only do domestic conditions still have a considerable influence over the national price, but also, due to their increasing size and relevance, these markets have growing impact on the CBOT price itself. Alterations in the supply from South American producers can affect the composition of the Chicago benchmark (interview Molinos, 2014), hence reflecting a slowly emerging re-balancing of influence in the global food system, as markets previously in the periphery of the price-setting mechanisms are gaining relevance on the global scale. Similarly, the Dalian Market Exchange in China is also growing in significance, particularly in the soybean market, as between 2007 and 2008 soybean futures and soybean meal futures were the most traded contracts (Burghardt and Acworth, 2009: 28). In this sense, the spatial reconfiguration of the agricultural derivatives market follows the transformations in the geography of agricultural production, and indeed the world economy more broadly, experienced in the last decades.

The CBOT is influential not only as a price-setting mechanism, but also impacts upon the value and popularity of a specific contract, which is seen as a secure and profitable investment. As we have mentioned before, ROFEX, as well as MATBA and BM&F Bovespa, sell soybean contracts - in addition to wheat and maize - linked to the Chicago market. These contracts are offered as opportunities to acquire the benchmark contract used worldwide. It is also, however, a tool that perpetuates Chicago's role as price setter and market leader. On the other hand, in 2005 CBOT started trading South American soybean futures, which 'provide its customers with a highly correlated price risk management tool and a transparent pricing reference based on the South American soybean crop' (CBOT, 2005: 3). This is both an indicator of the recognised significance of the South American export of soybean, and a way of 'strengthening the CBOT's role as the global soybean benchmark' (2005: 3).

Financialisation is one aspect of an increasingly 'nonlinear, multidimensional, multi-scalar' economy (Aalbers, 2015: 215), and its increasing presence in agriculture indicates the growing complexity and

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ongoing rescaling experienced by this sector. The development and consolidation of exchange markets for derivatives of agricultural products, of which soybean is an increasingly dominant element, demonstrates how the soybean trade has acquired an undeniably mobile nature that contrasts with the rather fixed and grounded nature of its physical production. It is not the soybean product or even its use value which is traded in Chicago, but its exchange value, which acquires an existence of its own, increasingly detached from the real economy and deterritorialised from any particular production zone. Soybean contracts are exchanged for cash delivery, that is, without the expectation of receiving the actual commodity in return, but simply as a bet on the variability of its price. Moreover, the increasing financialisation of this sector through the creation and trade of derivatives has given it a multi-scalar nature, connecting farmers in the Argentine pampas or the Brazilian Cerrado to brokers and investors like pension fund contributors in the US and other parts of the Global North. The authority of CBOT in the agricultural futures and options market is reflective of a global system with a particular spatial configuration – one in which even the highly mobile financial sector has certain territorial anchors. Nevertheless, in recent years this has begun to change, as South America and China have started to play a more significant role in the market for agricultural derivatives. The next section thus explores the opportunities for alternative spaces of financial accumulation being proposed in the countries of the Southern Cone.

Towards a Global South price setter mechanism?

The growing relevance of South American economies in the trade of agricultural commodities, and the soybean sector in particular, has led some to contemplate the potential for a South American Exchange Market, as an alternative to Chicago so as to challenge the price-setting power of the US-based institution.

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The first initiative appeared towards the end of the 1990s, when the International Trade Secretary of Argentina took an interest in a proposition from a civil society institution to create a Futures Market Exchange in the Southern Hemisphere based on soybean (interview FIEL, 2014). This interest derived from a preoccupation with the high levels of distortion in Chicago prices, which consequently impacted on the performance of Argentine agricultural commodities, as Chicago effectively imposed prices that did not reflect the Argentina's productive conditions. In total, South America already constituted the largest producer and exporter of soybean, which meant that as a region it had considerable leverage to propose such an alternative. Such an arrangement would entail that Argentina, Brazil and Paraguay would have greater control over the governance of the international and domestic price of soybean. ROFEX, which at the time was being consolidated as a significant institution in commodities exchange, put together a report on the topic which expressed their support for the initiative. However, this idea never developed further from that initial stage, as general instability and the crisis of 2001/2002 hit the Argentine economy (interview FIEL, 2014).

Similarly, there have been attempts to unify the exchange markets in Argentina, by combining the transactions of both ROFEX and MATBA to build a stronger alternative to Chicago. According to members of both organisations, this would be more efficient in economic terms – due to the economies of scale – and the project was thus given serious and formal consideration. Despite this, as private institutions, both corporations responded to their own shareholders and a lack of common agreement meant that the project was ultimately abandoned, though the reasons behind this were not clear (interview Bolsa de Cereales, 2014).

According to its proponents, having a regional market for agricultural futures and options would produce a more reliable and accurate price, reflecting the realities of production in the Southern Cone. Harvest in the US is at the opposite time of year, and as such stocks of soybean are high in South America

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when they are low in the US. The high price established in the Global North to spread out the remaining volumes, is then taken by South American producers via the flat price, hence forcing farmers to apply numerous discounts and adjust this price (Calzada and Dalonso, 2015: 5). Additionally, one interviewee pointed to the fear that, in a reconfiguration of price-setting power, it would be the purchasing market, namely, China, which will hold that capacity. As such, large producers would be in a disadvantaged position in terms of governance of trade conditions, making the issue of a common futures market a rather urgent one (interview FIEL, 2014).

There is still a significant amount of support for a South American soybean future market, which at one point even manifested itself as a proposal for a market for the Southern Hemisphere, including the 'triangle of soybean' constituted by Brazil, Argentina and China (InfoCampo, 2006). Recently, economists from the ROFEX research institution again highlighted the extensive basis of support for a South American soybean future, included that of a powerful Paraguayan farmers' union (Calzada and Dalonso, 2015: 5; La Nacion Paraguay, 2015). The ROFEX economists highlighted the relevance of an 'indisputable' South American price index for soybean that reflects the real productive capacity of the region (Calzada and Dalonso, 2015). With regard to soybean, and grains more generally, the countries of Mercosur and Bolivia have surpassed US levels of cultivated area, production, crushing capacity and export, thus creating the basis for the constitution of a viable alternative to the CBOT. However, this hypothetical project cannot be pursued without Brazil, the largest producer and exporter in the region. According to several interviewees, while aware of the proposition, officials from different Ministries and members of agribusiness associations have not expressed interest in pursuing such a project (interview MAPA, 2014; interview FIESP, 2014; interview CNA(a), 2014).

In sum, while so far yielding no tangible results, efforts to create alternative spaces for the governance of soybean derivatives market reflect how the

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geography of financialised agriculture is being challenged. A derivatives market in the Southern Hemisphere would reterritorialise the process of price formation mechanisms in South America and strengthen the region's position vis-à-vis Chicago and China, the latter of which is emerging as an alternative power centre to Chicago. As such, it would represent a rescaling of the soybean complex by directly linking the financial dimension of this industry with the geography of production. The concentration of capital on soybean derivatives has been contributing to these reconfigurations, as the markets that emerge as stronger alternatives – chiefly South America and China – are those dominated by the oilseed. However, futures and options are attractive as investments because they can be quickly exchanged for another asset if the former experiences a drop in profitability, embodying capital's capacity for mobility. As such, these reconfigurations have the potential of affecting the fixed dimension of the soybean economy in the case of a sudden bust of these contracts. The financialisation of the soybean trade has had important spatial consequences for this productive complex. Through the advent of soybean derivatives, profit-making activity has been detached from the actual production and sale of this oilseed and deterritorialised from the lands of the Southern Cone. Such financial instruments have thus transformed the scalar configuration of the soy complex, by forging links between South American exporting countries and key global financial centres. Nevertheless, this process of rescaling and deterritorialisation has also been countered by the continuing dominance of specific territorialised financial hubs, namely the CBOT, in setting the price of soybean. In recent years, this territorial power has been challenged by several (so far unsuccessful) attempts by Southern Cone producers to establish their own regional financial centre and thus reterritorialise this economic activity. Overall, the dynamics explored in this section embody certain tension between the disembodied nature of derivatives markets and the efforts to reterritorialise it in state contexts, whether in the US or in South America. The next section will explore how the actual production of soybean has also been affected by financialisation.

Financialisation of production

Planting Pools

In a process that started in the late 1970s and consolidated in the early 1990s, the Argentine agricultural production matrix experienced a substantial transformation. One of the main changes was the emergence of the *contractor* – an individual or firm hired on a temporary basis to provide services, such as harvesting or fumigation - as a key actor in the productive system (Piñeiro and Villarreal, 2005; Lombardo and Garcia, 2015). New forms of organisation emerged, as deregulation of imports allowed the incorporation of new inputs and machinery, and contractors gained a prominent role in production. One of these new forms was the so-called *planting* or *sowing pools*, financial operations that group together investment, agricultural management and contractors for the production and commercialisation of agricultural commodities, most commonly soybean.

Sowing pools first appeared in the 1990s, as part of several transformations taking place in the Argentine countryside which were sparked by new legislation passed by the national state. As mentioned in the previous chapter, the privatisation of ports and storage facilities in the 1990s contributed to the increasing role of transnational companies in agricultural trade, encouraging large scale production and resulting in the marginalisation of smaller farmers. Moreover, in 1991 a decree was passed that eliminated all agricultural regulatory bodies – such as the National Board of Grains and the National Board of Meat – making the Argentine agricultural system one of the most deregulated in the world (Teubal and Palmisano, 2010: 205). The National Boards had been created in the aftermath of the 1929 Wall Street crash and their aim was to regulate the agricultural sector by, for example, controlling prices in order to support grain or cattle producers (Teubal, 2009: 75). The dismantling of these boards meant the elimination of any institutional channel

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for state intervention in agriculture in Argentina, and the market was left free to movements of capital, both national and global.

Particularly significant for the emergence of planting pools were two legislative changes. The first was the liberalisation of conditions for the renting of land and the promotion of so-called 'accidental leasing', meaning rent contracts for the duration of one harvest only. Thus encouraging short-term investments that reinforce the role of the contractor as essential in this new accumulation process, particularly in the mechanisation of the Argentine countryside and the incorporation of advanced technology (Teubal, 2009: 205; Lombardo and Garcia, 2015). The second measure was the passing of a law that exempted the investor's profits from income tax (Piñeiro and Villareal, 2005: 34). The state was fundamental in providing the fiscal and structural conditions for the emergence of these short-term operations in the Argentine agricultural system.

According to Piñeiro and Villareal (2005), sowing pools typically include three key actors: a legal person - a public limited company, a trust fund, or any other legal form - who is responsible for the general management of the operation; an individual in charge of acquiring the financial capital, dealing with investors and management of the financial transactions; and an individual (agricultural engineer or manager) providing the technical knowledge to take responsibility for the property's rent and administration of production (2005: 34). These actors work together and offer potential investors a cultivation plan and an estimated rate of return at the end of the harvest. Production is based on renting - which could cover one or more properties - and hiring of services to contractors for each stage of the process.

This production method relies on economies of scale and temporary investment in variable capital for the creation of high profit rates. Fixed capital, such as land, machinery, and even storage facilities, is hired for a limited time. Capital accumulation is limited to a single harvest, with no long-term

commitment that would require more extensive investment. Sowing pools' short-term profitability works as an enabler of mobility, as capital can be invested in another crop, or even another activity, after the harvest is finished. Such short-term time horizons and high levels of capital mobility are characteristic of financial capital. Indeed, several authors give as the key feature of sowing pools the fact that these are 'promoters of short-term investment external to the agricultural world' (Piñeiro and Villareal, 2005: 33) which are ultimately integrating the financial sector into Argentina's agricultural system (Teubal and Palmisano, 2010: 208). There is a shared understanding that these mechanisms are yet another channel for the increasing financialisation of agricultural production.

The sowing pools hence brought *extra-agricultural* capitals – external investors with no knowledge or specific interest in agriculture – into the production process; actors that are generally only concerned with the rate of profit rather than with the development of the sector as such. Three main forms of capital can be identified: banks, financial institutions, and pension funds; new agribusiness companies, involved in production or inputs; and isolated investors, such as small and medium savers looking to incorporate certain financial risk (Posada and Martinez de Ibarreta, 1998: 123-124). In this way, urban capitals are thus incorporated into the countryside, further confirming Lefebvre's idea of the urbanisation of the rural. While initially these capitals were mainly domestic, sowing pools have attracted more foreign financial capitals, such as El Tejar, which received investment from British banks and US stockholders (interview Molinos, 2014; La Nación, 2008b). Financing mechanisms for agricultural production are thus rescaled towards regional and global levels, to the point that identifying the origins of investments into different properties becomes an extremely difficult task. But chiefly, this acts as a mechanism to increase deterritorialisation, as the liberalisation of the sector contributes to the absence of state authority and thus highly mobile financial capital has direct access to productive processes,

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instead of being intermediated by an institutional market, such as those analysed in the previous section.

These capitals are organised in *ad hoc* companies controlled by larger corporations (Dominguez and Sabatino, 2006: 263), but in general can take several legal forms, the trust fund being the most popular, which are supposed to have an asset rating as demanded by the National Commission of Values (Teubal and Palmisano, 2010: 209). Some of these *ad hoc* companies or trust funds, such as Los Grobos and El Tejar, eventually grew enough to transform into large businesses that even attempted to take this commercial format to neighbouring countries like Uruguay, Brazil, Paraguay and Bolivia. While it could be said that these companies do not constitute planting pools as such anymore, namely due to their formal constitution as agribusiness and investment companies, the same business principle still drives their activities.

Sowing pools also enhance rescaling processes from the local to higher levels. By working at larger scales and with foreign management, these organisations abandon or ignore local networks of input provision, services and storage, thus disrupting the local embedding of agricultural production. There is damage to the existing commercial and productive systems of countryside towns, as local distributors get cut out of the circuit or town cooperatives lose the capacity to create economies of scale (Dominguez and Sabatino, 2006: 264). Additionally, workforce employment is remarkably low in these structures, with only 1.6 hours of work per hectare used for soy production in 2011, an average labour demand that is four times lower than a decade ago (INTA PRECOP, 2011: 6). This shows the overall low labour intensity which characterises production of soy, and hence its transformation into a mechanised, capital intensive activity.

This system remained extremely profitable during the 1990s and 2000s, as investors were offered a yearly rate of return of 16% on average (Agroconsortium, 2017), but with some funds reaching profitability levels of

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around 35 to 40% (Posada and Martinez de Ibarreta, 1998: 129). In 2008/2009, 40 of the largest sowing pools covered an area between 2 and 2.5 million hectares, that is, around 10% of the total surface planted with soybean (Bertello, 2015a). There is no official information on the size and expansion of these investment funds, but estimations by Marcelo Posada and Mariano Martinez de Ibarreta in 1998 concluded around 20% of the total agricultural planted surface was organised in pools (1998: 123). While more recently there has been a decrease in the number of planting pools (Bertello, 2015a), these investment funds became a significant mechanism in the creation of profit in the soybean sector and, as the information presented suggests, had concentrated much of Argentine soybean in their own hands. The short-term nature of these arrangements responds to the need for capital to remain mobile in order to quickly move to more profitable activities.

Many agribusiness companies attempted to export this model to neighbouring countries, with Los Grobo beginning operations in Brazil and Paraguay, and El Tejar producing over a large area in Uruguay for some time. In this country, Argentine sowing pools advanced considerably, covering 35% of the soybean planted area in the 2009/2010 season (INTA PRECOP, 2011). However, the decline in soybean's international price and the change in the Uruguayan state's policies have contributed to the decline of these structures as key actors in the domestic and regional system. An increase in leasing, together with a drop in the commodity's international price, pushed down the competitiveness of these arrangements, hence reducing the number of operations of this kind from 2009 onwards (Bertello, 2015a).

Rural credit and insurance in Brazil

Managing risks related to weather and other unforeseen events affecting production has always been a central issue in agricultural production. Forward contracts – which gradually came to involve the use of intermediaries – allowed buyers to hedge against higher prices in the event that some

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producers failed to deliver the harvest, and helped farmers protect themselves from a sudden decrease in prices that would make them incur losses. In addition to the existence of futures, requests for increasing liquidity for production – crucial for mechanised agriculture, which demands large initial capital to cover input costs – resulted in the creation of several financial instruments, such as rural credits and rural insurance, as a way of managing the risk of a potential problem with the harvest or sudden variations in the price of the crop.

In Brazil, the state has been very involved in the development of agriculture and particularly of soybean since the crop began to expand in the 1970s. Through the governmental agency EMBRAPA, the state had a strong role in the development and expansion of the agricultural frontier by, for example, developing cooperation agreements with Japan (interview Nidera Brazil, 2014). EMBRAPA, the Brazilian Company for Agricultural Research, was particularly crucial in developing soybean seed varieties that would adapt first to the South of Brazil and later to the more tropical climate of the Cerrado (interview Nidera Brazil, 2014; Schlesinger and Noronha, 2006). According to an interviewee from Nidera Brazil and former researcher at EMBRAPA, up until 1995, very few seed breeding companies would venture into developing soybean varieties adaptable to Brazilian climates, namely due to the lack of legal protection, hence most of the contributions to soy expansion came from the public agency (interview Nidera Brazil, 2014). Besides the research and technical sphere, the state also maintained a significant role for itself through the provision of rural credits and insurance to protect farmers, particularly in the recently incorporated areas, such as the Brazilian Cerrado. In 1964, the National System for Rural Credit - SNCR in Portuguese - was created in Brazil, and the following year Rural Credit was institutionalised through federal legislation. The Banco do Brasil – a mixed entity, 70% of whose shares are owned by the Federal Government, while the remainder are traded at the BM&F Bovespa – became the main financial institution providing credit at a

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reduced interest rate that was specifically tailored for agricultural production. This is consistent with the state's strong intervention and funding of this economic sector, which, according to a former Brazilian Minister of Agriculture, should be one of the three fundamental instruments for an agricultural income policy, along with rural insurance and price guarantees (interview GV AGRO, 2014).

However, while the increasing capitalisation of agriculture and the expansion of larger farms into new arable land raised demand for rural credit, the state became progressively unable to meet these funding requests. In the state of Mato Grosso, for example, farms extend well beyond one hundred thousand hectares, thus demanding more than what the upper limit of cash the SNCR is able to give to a legal individual or association (interview Agroconsult, 2014). While almost half of the rural credit assigned in 2014 was funded under the SNCR framework (interview Agroconsult, 2014), there has been an increasing incentive for private companies and alternative sources of funding to cover this once state-dominated sphere. Large trading companies have been taking on this role, mainly by acting as intermediaries in offering inputs and machinery in exchange for a pre-determined volume of commodities after harvest (interview Agroconsult, 2014; SNA, 2015; Silva and Rebolo Lapo, 2012). According to consulting company Agroconsult, around 32% of producers now turn to trading companies to deliver this role of financing in Brazil, and in states like Mato Grosso this proportion has reached 50% (interview Agroconsult, 2014). This kind of operation, known as 'barter', offers a simpler contract, by reducing intermediaries, and extends the trader's control over the production of soybean itself, as it directly ensures access to the oilseed before production actually takes place, thus functioning like a future contract. On the other hand, from the perspective of the farmer, this acts as an 'escape valve' for cash-short producers, by allowing them to cover the upfront costs and reduce risks (SNA, 2015).

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Another measure taken to relieve the state of its financial burden towards agriculture was the introduction in 1999 of the *Cedula de Produto Rural – CPR* (Note of Rural Product). This title, offered by the Banco do Brasil but traded in the BM&F Bovespa, is a forward contract for the commercialisation of agribusiness products with the obligation of payment in product (known as Physical CPR) or in monetary value (Financial CPR) (Banco do Brasil, 2016). Through this mechanism, the debt acquired by the producer to cover costs of inputs or to finance production in general is securitised, meaning it has been ‘repackaged into interest-bearing securities’ (Jobst, 2008: 48). The securitisation of rural credit has served as a device for the progressive expansion of private credit and consequent reduction of state financing. What used to be provided by the state, is now transformed into a financial product that is traded in the exchange market as a new monetary commodity. This in turn has opened the possibility for new products to emerge, such as the *Letra de Credito do Agronegocio - LCA* (Credit Bill of Agribusiness) a contract created in 2006 and exclusively provided by financial institutions, but that is only available as a source of finance for large agribusiness corporations or cooperatives, rather than small scale farmers or family agriculture (Bouainain et al., 2007: 39). The multiplication of instruments available to finance agricultural production, and their increasing securitisation, may on one hand seem to contribute liquidity to the productive structure, but on the other hand, it increases the mobility of capital, and with that the capacity for capital to flee to other sectors when deemed more profitable. These mechanisms therefore enhance the concentration of capital in soybean in the short term, but accentuate the possibilities for massive disinvestment when the commodity boom slows.

Debates over the last ten years on rural insurance have seen many arguing in favour of increasing private participation at the expense of public provision. In 2003 the Brazilian government passed a law to subsidise farmers’ insurance premiums, as an incentive to increase coverage of the planted area. By ending

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the monopoly held by the *Instituto de Resseguros do Brasil* (National Institute of Insurance) over agricultural insurance in 2007, the private sector – both domestic and international – was allowed to play a greater role, creating a new domestic market (Ramalho da Silva, 2014). However, progress has been quite limited. The main problem seemed to be a mismatch in the market. According to the former President of the Brazilian Rural Society: ‘few rural producers have access [to insurance], because the insurance is expensive, but it is expensive because the number of clients is small’ (Ramalho da Silva, 2014: 85). The federal (national) state’s efforts to expand the reach of insurance have been significant: subsidies to insurance premiums increased by 95% from 2006 to 2007, while the amount provided by the federal government for this purpose reached almost \$61 million Brazilian Reals (BRL). By 2011, this had increased to BRL\$400 million. However, as of 2014, only 12% of the planted surface was covered by any type of insurance, and in 2012 only 8% of coverage was provided by private companies (interview GV AGRO, 2014; Ramalho da Silva, 2014: 86).

While the participation of private international companies has increased in the last four years (interview Agroconsult, 2014), state intervention remains very strong in the provision of this service or at least the facilitation of the market. In the case of soybean, the subsidy given by the state is 60% of the premium for regions where the crop forms a crucial source of economic growth (PSAN, 2017). Debates within the government persist on whether rural credit should be public or private, with many other actors such as the Rural Society arguing in favour of the latter (interview MAPA, 2014; interview SRB, 2014). Yet the limited expansion of the private sector in this area has necessitated continuous and increasing intervention by the state in the form of prime subsidies. As such, the Brazilian state acts as a facilitator and enabler of the market by incentivising its formation.

The banking system in Paraguay

In Paraguay, the banking system plays a significant role in the agribusiness complex through the provision of credit and financial services. However, Paraguay's banking structure has only recently acquired stability and strength, as it had been affected by two financial crises, in the mid 1990s and early 2000s. The first crisis began in 1995 and resulted in an increasing mistrust in the national currency and a transformation of deposits into US dollars, which made up 64.7% of all deposits in 2000 (Insfrán Pelozo, 2000: 6-7). These crises were partly caused by the high degree of informality existing in the financial system, in which banks made profits by providing loans to the agro-export sector and financing that with credits at fixed rates from the central bank, creating a *spread*.²⁰ In this context, private banks were in competition with each other over government funds rather than over private savings (2000: 9).

As a result, the number of institutions operating in the Paraguayan system was reduced substantially, resulting in a smaller, concentrated number of banks and financial institutions. In terms of the banking structure, there are four identifiable groups: branches of international financial institutions; banks that are majority owned by transnational entities; domestic capital banks; and one state-managed institution (ABC Color, 2014). Foreign banks make up a considerable part of the Paraguayan banking structure, as almost half of institutions are foreign or with a majority of foreign capital. The credit operations, deposits and assets of international institutions are equivalent to domestic bank holdings and assets, and thus global financial actors have a very significant presence in the Paraguayan national financial system (Banco Central del Paraguay, 2015).

The banking sector is of vital importance to the agricultural sector, as it is an important source of credit for production. In fact, along with loans for

²⁰ A spread is the difference between credit tax rates, in this case, between the one established by the Central Bank and that of private institutions.

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consumer goods, agriculture has been one of the main drivers of growth of the banking sector between 2010 and 2014, with an increase of 235% since 2009 (ABC Color, 2014). In 2014 agricultural loans constituted 22% of the system, with 50% of that corresponding to activities linked to the soybean production complex (2014), which is the single most important sector in volume of credits (Banco Central del Paraguay, 2015).²¹

As the Paraguayan banking system is key in the provision of credit to the soybean complex – while at the same time linking its own growth to the expansion of soybean production – the soy complex is also fundamental as one of the main providers of deposits (interview Base IS, 2014). The large amounts of profits created through soybean production and trade, enter the banking system where there is a preponderant role of Brazilian banks, namely the privately owned Itaú and the partially state-owned Banco do Brasil.

In this case, the financial system, through the banking structure, acts as an additional mechanism for the financialisation of production and its profits, and reinforces the tendency towards UD. While soybean is produced on Paraguayan territory, the profits are deposited in mainly foreign banks, with a predominance of Brazilian banks, thus contributing to the financial expansion of the global scale and reinforcing uneven patterns in the regional relationship between Paraguay and Brazil.

Conclusion

The aim of this chapter was to demonstrate the increasing role of financialisation in the agricultural economy and examine the manner in which capital mobility – facilitated by financialisation – enhances a particular

²¹ Besides the private sector, there are Public Financial Institutions which increasingly position themselves as providers of rural credit, such as the Banco Nacional del Fomento (National Bank of Development); Agencia Financiera de Desarrollo (National Agency of Development); Credito Agricola de Habilitacion (Agricultural Credit of Authorisation); Fondo Ganadero (Livestock Fund) y la Secretaria Nacional de la Vivienda y el Habitat (National Secretary for Home and Habitat) (Itau, 2012). However, these represent a very small portion compared to the presence of domestic and foreign private banks.

geography of the soybean complex that is increasingly multi-scalar, de-territorialised and uneven. Through the growing presence of financial actors – such as banks, hedge funds and trust funds, among others – agribusiness in general, but particularly soybean in South America, has been linked to mechanisms for the generation of profit that are detached from the real economy and characterised by speculation over profit and price fluctuations. In the aftermath of the 2008 global financial crisis, agricultural commodities emerged as an attractive alternative for financial capital in the search for larger profits (Visser et al., 2015).

This chapter analysed two key aspects of this process: the financialisation of trade and of production. The financialisation of trade takes mobility of agricultural capital to the logical extreme. The creation and expansion of soybean derivatives has expanded the reign of exchange value, as profit is made from speculation on commodity price fluctuations. Most of these transactions are not actually completed, or the soybean that was theoretically traded is never delivered, but they are rather simply bets on their exchange value and its behaviour. The tangible characteristics of this high-protein oilseed fade into irrelevance as the movements in its price become the basis of capital accumulation. The rise of soybean derivatives has also rescaled this agro-industrial complex by forging connections between the Southern Cone and a variety of global financial centres. Nevertheless, this deterritorialised financial activity has been challenged by processes of reterritorialisation, as several - thus far unsuccessful - initiatives have been pursued to set up a South American Exchange Market that would challenge the hegemony of Chicago.

Overall, the financialisation of the production and trade of soybean has transformed the spatial configuration of this industry. As Buranello explained, the soybean complex has become an ‘activity of capital’, such that ‘relationships of agribusiness are not productive, but overall they are financial’ (2016: 13). In all three countries, financialisation has thus contributed to the rescaling of the soybean complex into a truly global network and enhanced the

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potential for a rapid disinvestment in this industry by enhancing the mobility of capital. This sector has been rescaled not just through the connection of exporters and importers, but through the integration of this industry into global financial networks.

Financial capital and its drivers - short-term profits derived from speculation on price movements - have become a key component in the spatial organisation of the soybean complex. This has both freed up credit for the massive extension of fixed soybean production in the Southern Cone *and* increased the risk of massive disinvestment in the case of a decline in the oilseed's profitability. Financialisation has thus truly accentuated the UD of the soy complex by enhancing both dimensions: the enormous concentration of capital in specific geographical locations (reterritorialisation), and the mobility of capital to flee to more profitable spheres (deterritorialisation). The creation of planting pools in Argentina - a process spurred by state deregulation - and the increasing role of global financial firms in the Paraguayan banking system have accelerated the short-termism, mobility, and global nature of the soybean complex. At the same time, the provision of rural credit facilities by the Brazilian state and private financial institutions has propelled the concentration of soybean capital into huge industrial farms. The increasing prevalence of financial capital in this production complex has thus boosted both reterritorialisation through the enlargement of fixed agricultural production, and deterritorialisation through the mobility of investment.

This chapter has highlighted the current expression of the mobile quality of capital, as the increasing financialisation of trade and production in the soybean complex has enhanced the deterritorialisation of profits, allowing the rapid movement of capital into this asset, and creating the conditions for its rapid retreat. In this sense, the financialisation of agriculture constitutes a key element in the contradictory but coexistent forces of re- and deterritorialisation, and hence in the seesaw movement of capital. As this chapter has shown, for example, the presence of *extra-agricultural* capitals (p.

148) in Argentina has created conditions for new modalities of production, namely, in the form of planting pools that incentivise the concentration of land and monoculture of soybean. Additionally, these mechanisms create rescaling processes, as the produce of local farmers becomes part of global exchange markets based in the US, or are able to expand the scale of production due to the investment of transnational capitals.

While expressing the moment of deterritorialisation, these processes are still connected to the territoriality of the state. The analysis presented here suggests that the state's participation in governing the financialisation of agriculture has enabled the expansion of this phenomenon. The deregulation of renting conditions in the Argentine countryside, the state's subsidies to insurance primes in Brazil, and the state's light-touch intervention in the Paraguayan private banking system illustrate the different ways in which the states in these countries have stimulated financialisation and, consequently, the processes of uneven development that it propels.

6. Fiscal strategies and redistribution: the politics of taxation

Introduction

With this chapter, the focus of this thesis moves from the conditions for the creation of wealth in the soybean complex, namely the simultaneous development of fixed infrastructure and the increasing role of mobile capital, to the capacity of the state to regulate these dynamics. As it was more extensively explained in the theoretical framework, avoiding the 'territorial trap' (Agnew, 1994) does not mean ignoring the nation-state, but rather it requires one to understand the multiplicity of scales that emerge alongside it. Throughout the multi-scalar and sometimes cross-border processes analysed in the previous chapters, the state often remained a crucial player in facilitating the realisation of moments of deterritorialisation and reterritorialisation. Not only does the state co-constitute these dynamics, but it can also behave as 'an institutional mediator of uneven geographical development on different spatial scales' (Brenner, 1998a: 462). In other words, processes of globalisation or, in this case, the expansion of the soybean complex, are 'embedded within and dependent upon' the legal and institutional infrastructure provided by the state (Phillips, 2005: 95).

This chapter and the following chapter develop a country-based analysis of states' capacities for governing the distribution of profits created through the soybean complex. Through the study of fiscal and exchange rate policies, this thesis will explore the 'variegated processes of adaptation and transformation' experienced by the Argentinian, Brazilian, and Paraguayan states caused by the expansion of industrial agriculture during the latest commodity boom (Phillips, 2005: 95). In this sense, these chapters will show how different

processes in the global political economy, such as commodity booms, can enhance or limit state's capacity for governance and distribution.

The expansion of soy production in the context of a global commodity boom created a spectrum of possible development pathways for affected countries to follow. At one extreme of the spectrum lay the archetypal 'pink tide' state that would use the extraordinary agricultural revenues to fund programmes for social inclusion; while at the other end lay the neoliberal state that would facilitate transnational agribusiness elites as they captured the vast majority of these revenues (Veltmeyer and Petras, 2014). At the centre of this difference is the capacity of the state to accumulate these revenues through taxation, and its ability to use them to benefit different sectors of society. In the last decade, there has been an upward trend in tax revenue collection in the region,²² with tax burdens increasing in average from 15.4% to 19.1% of GDP between 2000 and 2011, a significant part of which is explained by an increase in proceeds from natural resource exploitation (CEPAL, 2013). By looking closely into the design and implementation of the taxation system as a mechanism through which distributional conflicts are played out, this chapter will analyse the strategies for the capture and redistribution of wealth accumulated through agribusiness activities in Argentina, Brazil, and Paraguay.

The resource wealth literature, both in its Economics and Political Science traditions, has explored the different ways in which the sudden appearance of an extraordinary source of revenues impacts growth, political regimes, and conflict in resource rich countries. It has placed a particular emphasis on developing countries which, it is argued, are less able and willing to manage these resources in the national interest (Karl, 1997, Ross, 1999, Collier, 2007). However, these approaches tend not to explore how *existing* institutional and

²² On average, between 2000 and 2011 fiscal revenues in Latin America increased from 19.6% to 23.6% of GDP, and tax burden (excluding social security contributions) went from 12.7% to 15.7% in the same period (CEPAL, 2013: 11-12).

political arrangements, such as political regimes, shape the distributional conflicts that emerge in response to massive revenues generated by a resource boom. Recognising this, recent contributions have analysed how social, institutional and political conditions can result in different types of resource governance (Rosser, 2006; Nem Singh, 2010, 2013; Haarstad, 2012; Saad-Filho and Weeks, 2013; Saylor, 2012, 2014).

This chapter aims to further develop this approach by incorporating a spatial dimension into the analysis. Particularly, it will analyse the design of fiscal policies as strategies developed to govern the patterns of UD created by the dynamics of capital accumulation in the soybean industry. It will do so by analysing how three dimensions – the degree of federalism, the extent to which soybean producers are part of elite coalitions, and the (in)existence of a state-society compact – determine distributional conflicts that consequently affect the design and implementation of tax systems. In turn, these dimensions usually embody strategies of de- and reterritorialisation that reflect the role of the state operating at different scales. Particularly highlighting their capacity in modifying, or reinforcing, the spatial dynamics unfolded by the expansion of soybean-fuelled wealth.

The policies analysed in this and the following chapter reflect the contradiction faced by these countries' governments between supporting the renewed state-society relation embedded in the region's 'turn to the left' – although reversed in the case of Paraguay – and maintaining the neoliberal state-market relations that underpinned the region's growth model. States are pressed to incentivise market expansion based on comparative advantages, in this case of the soybean complex, while also addressing popular demands for a new social contract and increasing redistribution. In the case of taxation, this conundrum is transversed by institutional arrangements framing domestic politics, reflected in each of these countries' fiscal political systems.

The following sections will examine each of the selected cases - Argentina, Paraguay, and Brazil - and the different outcomes created by the struggles for the distribution of soybean revenues. While in Argentina commodity exports have been managed within a highly centralised fiscal system, leading to the extensive use of fiscal resources for income redistribution, in Paraguay the state has been largely co-opted by agribusiness elites, resulting in very limited redistribution efforts. Finally, Brazil is marked by a strong federalism that restricts the implementation of new taxation mechanisms. This chapter concludes that differentiation in national governance models differ is influenced by domestic institutional, political, and social conditions, and that the availability of large inflows of cash arising from agricultural commodity booms – and the patterns of UD that emerge with it - foster the emergence of distributional conflicts within such systems.

Argentina: export-dependent fiscal enlargement

Argentina has one of the highest tax levels in Latin America, which has increased by 10% of GDP since 2000, even surpassing some OECD countries (CEPAL, 2013: 14). This contributed to a significant enlargement of its fiscal revenue, which went from 25% of GDP in 2000 to 38% in 2011 (2013: 12). In the same period as the mentioned fiscal expansion, soybean's international price and its domestic production soared, and tax revenues from the commodity's value chain went from being 1.6% of total Treasury income in 2000/2001 to representing 8.4% in 2009/2010 (Cohan, 2012). Luciano Cohan, estimates that in the 2008-09 harvest the government collected US\$9.2 billion from the soybean value chain, an 830% increase from the 2000-2001 harvest, and in that same period the sector contributed 7.3% to the country's fiscal collection on average (2012: 78), while total revenue collection in that period rose by 86% (CEPALSTAT, 2017). The expansion of the Argentine state's fiscal collection capacity was thus inseparable from the soy boom.

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While there were nine separate taxes and charges affecting the agricultural sector, the main tax instrument, and also the main source of controversy and conflict with the agribusiness sector, was the export duty on soy and its by-products. As of November 2015, the rates of this tax were 35% for grain and 32% for vegetable oil and other products such as pellets.

Discretionary federalism

Argentina's political federalism was defined by Diaz-Cayeros as 'a centralised but asymmetric federation', due to Buenos Aires' privileged position (Diaz-Cayeros, 2006b). Today, while this imbalance remains, the main asymmetry lies between subnational governments²³ and the central administration. Although subnational states have considerable autonomy in taxation, the federal government maintained a dominant position by controlling the most relevant sources of tax revenue, such as custom duties. As a mechanism for counter-balancing Buenos Aires' power, in 1934 a fiscal pact established a system of revenue-sharing, later made constitutional by the 1994 constitutional reform. While this was an attempt to formalise and clarify the tax-sharing system, the Argentinian federal fiscal structure still remained one of the most complex in the region, even being dubbed a 'labyrinth' by the federal tax agency itself (Diaz-Cayeros, 2006a, Saiegh and Tommasi, 1999).²⁴ In spite of the attempts to make this labyrinth as formal and rule-based as possible, discretionary distribution based on political negotiations still prevailed, and the availability of soybean revenues offered new opportunities for federal/subnational tensions to arise.

²³ While terminology and organisation of subnational political units is different in every country, the term 'subnational state' will be used for Argentina and Brazil for the purpose of this thesis. The case of Paraguay, being a unitary government, requires to make the distinction between Departments, subnational governments with very limited authority, and municipalities or local governments, which in reality hold more autonomy.

²⁴ The Federal Commission of Taxes titles the Distribution Diagram as 'The New Labyrinth of Co-Participation' (CFI, 2017).

The significant increase in the federal fiscal collection meant that a larger amount of resources were available for distribution among provinces through the revenue-sharing mechanism established by the Constitution. However, as Diaz-Cayeros points out, the intricate regulations that had been added to the system over time had also left enough space to use revenue sharing as a tool for alliance building or political bargaining (2006b). As not all taxes are shared, or are only partially shared, the rising fiscal collection via non-shareable taxes (such as export taxes) increases centralisation of the resources in the hands of the federal government and, with that, facilitates an increase in discretionary transfers. Additional to the revenue-sharing system, the national executive power has the capacity to designate part of the national budget as transfers to the subnational governments, on a discretionary basis. According to the Argentine think tank CIPPEC, the distribution of these funds, which were estimated to be 23% of the national budget in 2009, was not equitable (Diaz Frers, 2010). Some have suggested that subnational states whose governments were aligned with the Kirchner governments (2003-2015) were thus likely to receive additional funds, consequently allowing greater social spending (Nogues, 2014).²⁵ This is consistent with findings from literature on the role of subnational governments in the configuration of Argentine political power at the national level (see Jones et al., 2002; Ardanaz et al., 2014; Jones, Meloni and Tomassi, 2012). In turn, this preferential fiscal system has had a significant effect on the electoral results throughout the country (Jones, Meloni and Tomassi, 2012).

As mentioned above, there are nine taxes that apply to agricultural production: export rights; gross income; tax on debit and credit; income tax;

²⁵ Estimations from CIPPEC from 2009 found that the subnational states of Formosa, Chubut, La Rioja and Santa Cruz, as well as the Autonomous City of Buenos Aires, received the highest amount of discretionary transfers from the national budget (Diaz Frers, 2010). While the City of Buenos Aires should be excluded (it is assigned a number of centralised purchases, expenses and other items), all the other administrative units mentioned were at the time governed by politicians that both belonged to Kirchner's party (Frente por la Victoria) or to close factions, and were considered close allies.

immovable property tax; road rate; tax on diesel; stamping charges; and social charges (Cohan 2012). Of these, subnational governments collect only three (gross income, property tax, and charges on stamping), while revenues from the more relevant taxes go to the coffers of the central government. Municipalities, one level below subnational states, also want 'a share of the cake', but with more limited capacity to implement taxation, they recur to very simple and small mechanisms, such as charging for the parking of grain handling trucks in the companies' parking spaces, for about ARS\$ 50 (US\$ 5.14) per truck (interview Nidera, 2014).

Not only were subnational states excluded from the collection of international trade duties – and subject to the central government's will on how to share those resources – but neither did they participate in deciding the rate of such taxes. While the constitution establishes that it is the responsibility of the national congress to determine export and import taxes, this was delegated to the executive power, which in turn has transferred this function to the Ministry of Economy (Teubal and Palmisano, 2010). Consequently, it eliminated a potential site of bargaining for representatives from subnational states that do not share the political leanings of the ruling party.

An exception to this dynamic was the conflict that unfolded in 2008 and which brought the national government, at the time presided over by Cristina Fernandez de Kirchner, into confrontation with agricultural producers. In early 2008, with soy prices rising above US\$ 400, Kirchner's government introduced a mobile tax scheme for agricultural export duties. Export taxes had been used recurrently throughout Argentina's history, and the rate on soybean exports had been increased to 23.5% by President Eduardo Duhalde, as a mechanism to increase revenues in the aftermath of the 2001 economic crisis. President Cristina Kirchner extended this tax to other crops and

imposed a higher rate, the highest being on soybean, which by November 2007 reached 35%, at a time when soybean prices peaked at US\$ 412 per tonne.²⁶

In March 2008, the government introduced by decree Resolution N. 125 stipulating a mobile tax system where the rate of export tax would increase or decrease proportional to the international price of the corresponding agricultural commodity. This measure was strongly opposed by several organisations of the agricultural sector and initiated a conflict that extended from March until July 2008. In June 2008, after three months of intense confrontation between the associations representing the agricultural producers and the Kirchner government, which included numerous manifestations as well as road blocks throughout the country, President Kirchner announced her decision to put the resolution up for deliberation in Congress (Infobae, 2012). After passing the Chamber of Deputies with a very small margin, the resolution had to be approved by the Senate, where subnational states are equally represented regardless of their size. After 18 hours of debate, the vote resulted in a tie, with many senators from the ruling party voting against the Government's proposal, partly due to fear of electoral retaliation from their own constituents. Finally, the President of the Senate decided to vote against the mobile tax scheme, and consequently the national government revoked its decision and returned to the pre-existing rates.

The conflict between the national government and agricultural producers over the rise of export taxes briefly transferred to the legislative bodies – Congress and Senate – the capacity to directly influence the decision-making process for export duties. However, this was just a particular situation, and with the resolution of the conflict, capacity for redistribution and control over fiscal policy returned to the exclusive control of the executive branch.

²⁶ Collection depends on two main things: the volume of soy produced and traded in the form of grains, oil or meal; and the international price of soy, because the amount to be paid is calculated according to the value of the transaction.

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This discretionary federalism, in which the central government in Buenos Aires retains strong control over the implementation of fiscal strategies and tax collection, is conducive towards a concentration and centralisation of fiscal resources that gives the national government a strong leverage in domestic politics. On the one hand, its discretionary use of tax receipts creates a particular political spatial configuration whereby resources are distributed according to political affiliations – that is, more resources go to those departments that are governed by the Kirchner's party. On the other, it both *deterritorialises* – by centralising wealth from the soybean production collected through taxes – and *reterritorialises*, as its redistribution does not follow the same spatial logic as that of capital associated with soybean, and by doing so, the national state asserts its authority over the subnational administrations where agribusiness is prevalent.

Agribusiness-urban conflict

There is a considerable diversity among the private actors involved in the agribusiness production process. Usually labelled under the general term 'rural producers', agricultural producers in Argentina are grouped together in different unions according to property size or production scale. Some of these unions have been traditionally opposed to each other. They represent very divergent interests, from the Sociedad Rural Argentina (SRA), which unites the most conservative sector of large landowners, to the Confederación Intercooperativa Agropecuaria Limitada (CONINAGRO), a federation that gathers the agricultural cooperatives. As for the agro-industrial processing sector, it is also quite diverse, featuring both domestic and transnational firms dedicated to processing grains into oil, animal feed and pellets, as well as transnational agricultural traders which sometimes expand their activities into grain processing and the trade of grains and its by-products.

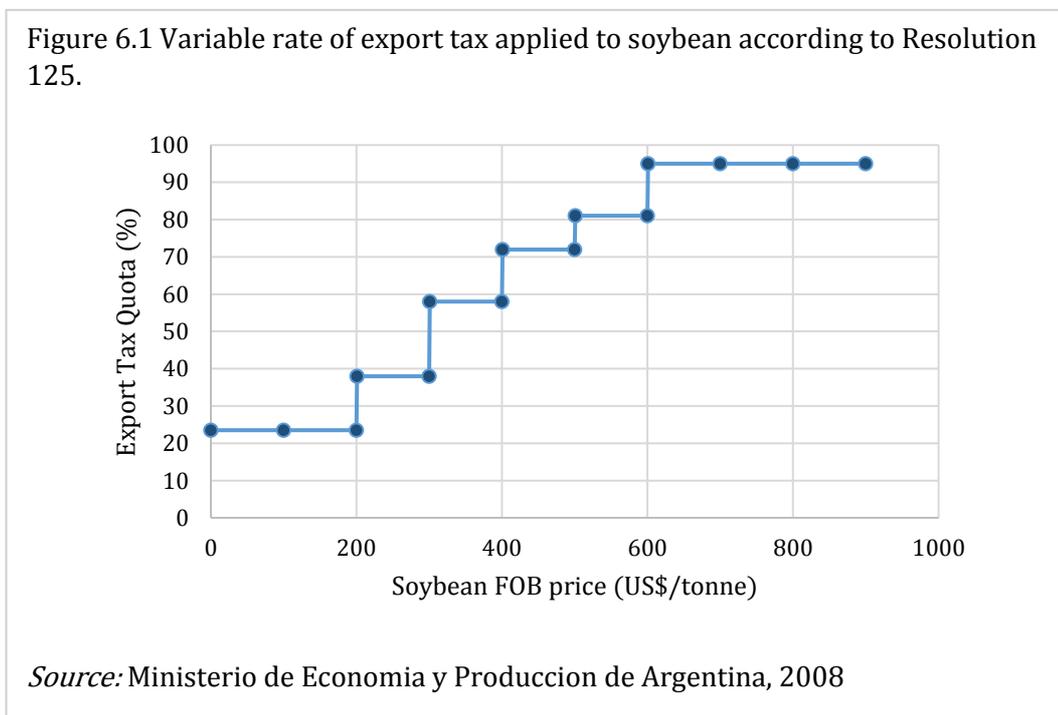
The mobile tax system described before generated a strong reaction and initiated what came to be known as the conflict 'del campo' – of the

countryside. The imposed mechanism of a variable export tax implied that, in the case of soy and wheat, if the price of the commodity reached a certain level, the rate could go above 60% (see Figure 6.1). The legislation also foresaw the payment of subsidies in case of a plunge in international prices, but agricultural producers did not trust the government would go through with the payments if the situation arrived (interview LCG Consultants, 2014). As the president of the Argentine Soybean Chain Association told me: ‘They wanted to share the profits but not the losses’ (interview ACSOJA, 2014). This conflict saw the productive sector – despite being represented by different unions – join together and lead the opposition to this policy. While it was the trading companies which effectively paid the tax, the burden of taxation was pushed back down the supply chain onto the producers. In fact, while the legal name of this fiscal instrument was ‘export rights’, the popular name was *retenciones*, which means ‘withholding’; a reference that according to Teubal and Palmisano some economists adopted in an effort to distinguish it from other export taxes (2010). Moreover, these authors highlight a differential between the amount that producers pay, and the amount effectively received by the state. Due to a complex mechanism foreseen in the Customs Code, trading companies purchased soybean from producers discounting the export tax rate from the final amount, and later paid the fiscal authority directly. In this process, traders were able to apply a different price to calculate what producers received as payment and consequently what they were meant to pay in taxes, and what was actually paid to the state in export taxes. In this sense, there was a *privatisation* of the tax – a portion of what was effectively charged as tax to the producer was in fact appropriated by the trading company (2010). According to the former President of the National Board of

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Grains, the amount retained by the exporters reached US\$ two billion in 2008 (Ferrari Etchberry, 2008).

As Teubal and Palmisano explain, this conflict was not a debate over the viability of the agribusiness model, led by soybean, but was instead related to 'who and in which proportion appropriated the land revenues resulting from the increase in international prices of commodities mainly after 2003' (2010). As a representative from the soy trader NIDERA revealed, even in the years following the resolution of the conflict, the relationship between the government and agribusiness was underpinned by the understanding that agribusinesses were 'handling a wealth that is not ours ... we don't have a right to administer it' (interview Nidera, 2014). The government considered that, as one of the country's most competitive sectors, with a net inflow of US dollars, agricultural production *had* to contribute to the national budget



(interview Ministry of Agriculture, 2014). In 2014, the manager of Nidera echoed this idea: 'This afternoon we have a meeting with the Ministry of

Economy to see how many US dollars they need us to bring in in the next three months, and they do not care how or when' (interview Nidera, 2014).

From the perspective of the government, the only way to ensure the redistribution of these 'extraordinary profits' (Teubal and Palmisano, 2010) and enforce the payment of tax duties was through a system of *retenciones* (interview former Secretary of Agriculture, 2014). While the motive behind this measure was fiscal, it had consequences for the levels of production. According to the president of Grupo Los Grobo, an Argentine agro-industrial corporation, in 2014 production of agricultural goods had been almost stagnant for six years at around 100 million tonnes, however 'without that [state] intervention, today we would be closer to 140 million tonnes' (interview Los Grobo, 2014). Similarly, an agricultural consultant and former Argentinian Under-Secretary of Agricultural Economy highlighted that these export taxes affected levels of production, with the largest impact on recently incorporated lands for cultivation in the North-West of the country. He explained:

In the current conditions [of high soy price], *retenciones* prevent the expansion of the agricultural frontier. Export taxes are always bad because they reduce production. If there were high prices and no export taxes, there would be soybean even in the plant pots of Salta²⁷ (interview CARI, 2014).

While Resolution 125 was finally repealed, the alliance of producers, however, failed to capitalise on the popular support for their campaign, and were not able to reinstate a dialogue with the government. The complete break in communication between political leaders and the agricultural producers characterised the remaining years of the Fernandez de Kirchner administration.

²⁷ Salta is a province in the North-West of Argentina where industrial agriculture expanded mainly since the early 2000s, driven by soy rising prices. Much of the expansion of the agricultural frontier in this area was done through deforestation (Dros, 2004; interview Syngenta, 2014; Gordillo, 2016).

Export-dependent social spending

With the exception of the case of Resolution 125 developed above, the national government of Argentina developed a commanding capacity to impose high rates of taxation in order to fund the state's expansion, both in terms of bureaucracy and social spending. In particular, the soybean complex has been a significant source of tax revenue, as it contributed an average of 7.3% to the total fiscal collection between 2000 and 2009 (Cohan, 2012). As most soybean production is destined for international markets, the government had the capacity to tax practically the entirety of production through export taxes. Different to other traditional Argentinian export products, such as wheat and beef, soybean and its by-products are not consumed domestically. This avoids what Neil Richardson calls the 'wage-goods effect', by which the expansion of exports of consumed goods produces a tightening in local demand and hence a rise in domestic prices (2009). Soybean, then, allows the government to promote their export without compromising the purchasing capacity of domestic workers.

Revenue collection from soy export duties increased Argentina's fiscal capacity considerably, allowing the government to extend its efforts in addressing income inequality and poverty. According to Richardson, this was also key in building a multi-class coalition to support them electorally (2009). Through an expansion of social expenditures and particularly direct cash transfers, Argentina became a 'champion' of income inequality reduction, with very impressive results in extreme poverty reduction, and hence re-building the state-society nexus broken during the 1990s (Lustig, 2011; Riggiozzi, 2010). Besides spending on education, health and social assistance, the Argentine government has also had a policy of subsidies to public services, particularly transport and energy, which increased considerably after 2006, reaching 4% of GDP in 2014 (Puig and Salinardi, 2015).

The need to solve a creeping fiscal imbalance was identified by the economic team that was appointed to the Ministry of Economy in December 2007, led by Martin Lousteau. There was an attempt to pursue a counter-cyclical policy, with the double objective of lowering the burden of subsidies and slowing down the economy as inflation was reaching 20% (interview LCG Consultant, 2014). Public expenditure had been increasing since the 2001 crisis, reaching a surge of 40% in nominal terms from 2006 to 2007 (interview LCG Consultant, 2014).²⁸ A growth in tax revenues was necessary to maintain the levels of expenditure. The government put forward other arguments, such as controlling domestic prices, but the consensus among different actors was that the main motive behind the controversial measure, Resolution 125, was the generation of further fiscal resources (interview ACOSJA, 2014; interview LCG Consultant, 2014; interview FIEL, 2014). This system of promoting soy exports in order to expand fiscal collection and hence the state's capacity for social spending was dubbed by Richardson as 'export oriented populism' (Richardson, 2009). There was a clear electoral drive behind this surge, argues the author, as social expenditure increased in the months leading up to the 2007 presidential election, when Cristina Kirchner won in the first round with 45% of the vote, and the increase in soybean export taxes followed in an attempt to fund this expenditure surge (2009: 243). Kirchner's party went on to maintain leadership in the legislative elections in 2009 and Cristina was re-elected as President in 2011 with 54.4% of votes. However, an over-reliance on revenues from commodities exports might present serious difficulties in a post-boom context, as it runs the risks of being macro-economically unsustainable (Lustig, 2011).

In sum, Argentina's highly centralised federal system has allowed the central government to capture revenues at the expense of subnational states and agribusiness elites. This has in turn expanded the state's fiscal capacity to

²⁸ The National Institute for Statistics and Census (INDEC for its initials in Spanish) was intervened by the Government in 2007, and no official data is available on social expenditure, inflation or other indicators after 2006 (See The Economist, 2012).

strengthen the state-society contract through social expenditure and reap the consequent electoral rewards. Through the design and implementation of a fiscal policy largely dependent on exports of soybean, the Argentine national government intervened in the redistribution of the wealth created by the soybean sector and attempted to govern the spatial dynamics created by this capital. Such strategy aimed at supporting a certain political arrangement – both in terms of subnational and national politics, through discretionary federalism and the enlargement of social expenditure – and also consolidated the UD within the agribusiness sector, namely by consolidating the power and profit accumulated by large traders in detriment of local producers.

Brazil: fragmented federalism or the ‘federalist trap’

Compared to Argentina’s political system, federalism in Brazil is characterised by more autonomy and greater power held by subnational states, with the attendant power struggles that emerge from this. Distributional conflicts, both among subnational states and with the federal government have resulted in one of the most complicated fiscal structures in the region, whereby the location of (dis)incentives and compensations responds more to historical struggles than conscious policy decisions.

Brazil collects tax revenue on a similar or even larger volume than the average OECD country. This is done through over eighty-five different taxes imposed at the municipal, state and federal levels (Higgins and Pereira, 2013). Overall, in 2013 the Brazilian government collected tax revenues equivalent to 35.6% of GDP - the highest in Latin America. As for fiscal pressure on agribusiness, there are 44 taxes and charges on agricultural products, which account for 34% of the final cost of food (EMBRAPA, 2004). There is no unique Value Added Tax (VAT) applied on the final product, but rather municipal, state and federal rates are applied at point of origin, thus compounding each other and creating a ‘cascading effect’ (Higgins and Pereira, 2013). This has an

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impact on both the distribution of income among different sectors of society, as well as between states and the federal government.

Fragile fiscal federalism

While there have been several attempts by the federal government to centralise its fiscal authority, subnational states have managed to hold on to this capacity and maintain a 'highly peripheralised fiscal arrangement' (Diaz-Cayeros, 2006a). This is a salient point of contrast with Argentina, where the central government has managed to concentrate large fiscal capacity, which is linked to historical processes of state building. This particular feature sets the scene for many of the debates and conflicts around the taxation of the soybean sector.

Of the 44 taxes that are applied on agricultural products, three are of particular importance. Profit participation contribution (PIS) and social security financing contribution (Cofins) are both federal taxes with a significant impact on the domestic price of food. The third tax, on the circulation of goods and services (ICMS), is the most problematic because it is enforced and collected by the subnational states, as a kind of state VAT. The rate is determined by each state and varies depending on the type of product or service, making it one of the most complex elements of the Brazilian fiscal system.

Given that ICMS is administered by subnational state governments and does not reach the federal coffers, soybean's contribution through this tax is a function of the geographical distribution of production throughout the country. In other words, states with a higher concentration of soy production will hence be capable of capturing more revenue, reinforcing geographical imbalances. Soybean was the main contributor to tax revenues among agricultural products for the South and Centre-West regions, accounting for 36.3% and 56.4% of the regional collection respectively in 2004 (EMBRAPA, 2004). Revenue collection in the economically poorer states in the North and

North-East is much smaller, contributing to geographical differentiation in levels of social provision, and thus poverty and inequality.

An additional element that exacerbates the complexities of this system is the 'Kandir Law',²⁹ which eliminates the imposition of the ICMS on exports of primary products and certain semi-elaborated industrial products (EMBRAPA, 2004, Varsano, 2013). The existing ICMS, modified in the 1988 Constitution, favoured the circulation and export of industrialised goods while it maintained taxation over capital and non-processed goods, which, according to Varsano, had negative consequences on growth and the balance of payments (2013). The author argues that with the implementation of the Plan Real in 1992, the exchange rate became the anchor of inflation control, which resulted in a negative balance of payments and low growth rates after 1996. To reverse this, policy makers were looking to incentivise exports without altering the currency (2013: 7). This complementary law, proposed by Senator Antonio Kandir, lifted all charges and duties on exports of unprocessed agricultural commodities, which incentivised the export of grains to the detriment of industrialised by-products such as oil, meal and flour. As prices for these goods were set at the international level, producers suffered the discount imposed by the tax and would prioritise the domestic market where they could transfer the cost of tax onto consumers.

The Kandir Law facilitated exports of grains without punishing the producer, and consequently favouring the national balance of payments, but meant a loss in the subnational governments' capacity for revenue collection. Unlike Argentina's population, Brazilians consume close to 50% of soybean domestically, and the Kandir Law only left this amount susceptible of being taxed, the other half of production destined to export markets (CONAB, 2016; UN Statistics Division, 2017). As compensation, the federal government committed to pay an 'income insurance' that would help states in the first

²⁹ The Kandir Law was a complementary legislation to ICMS passed in 1997 and which takes its name after Brazilian Congressman Antonio Kandir, who proposed the amendment.

transition period of implementation (Varsano, 2013). When this period ended, transfers from the federal government continued over time, hence in reality creating a federal subsidy for grains exports, though its significance has been decreasing with time. The total amount paid in insurance by the Brazilian central government in 2012 was US\$517,000, a significant reduction from the US\$1 billion spent in 2003 (Varsano, 2013).³⁰ While this subsidy has receded with time, other policies for income insurance have been developed so as to protect producers from different shocks (see Chapter 7).

The complexity of the Brazilian fiscal system reflected the main distributional conflict: the subnational struggle over resources. While this is not exclusive to soybean, this commodity is a good example of how subnational states' interests can be conflicting with each other and with the federal state, which in turn leads to power struggles over the appropriation of revenues. A representative of ABIOVE, the Brazilian Association of Vegetable Oil Industries, explained:

If you have a soybean crushing plant in São Paulo, and you want to bring soybean from Mato Grosso [to process], you have to pay the ICMS. Even if you are going to export meal and oil. (...) It does not make sense to continue to pay taxes so you will move your business there to where the primary goods are. So you will process the raw material in the same [subnational] state, and export meal and oil from there. (...) A way of correcting this would be to not have a tax on the movement of soy, just have a tax on the final profit of the export of oil or meal. But the [subnational] states say that if that is done, two things will happen: one, businesses will move to larger states, and second, they will be left without resources (interview ABIOVE, 2014).

As tax capacity largely remains with the subnational state, a strong imbalance is created between states with extensive industrial and agricultural productions, and poorer states particularly in the North-East. In fact, the ICMS has sparked the emergence of fiscal wars between local governments,

³⁰ Estimations based on exchange rate of April 4th 2016 between Brazilian Real and US dollar (BRL/USD 3.675).

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generating a tendency for a 'race to the bottom' within the country itself as subnational states offer increasingly lower taxes in a bid to attract investments (interview Barral Consultants, 2014). While this has not yet been the case for soybean, it does illustrate the pernicious dynamics of the fragmented fiscal structure.

Business and rural elites

There is a stark contrast between the disorganised nature of Brazil's complex federal fiscal system and the high level of organisation of Brazilian agribusiness elites, who have succeeded, both at the subnational and federal level, in attaining a large degree of influence over political decisions and cultivating a powerful position vis-à-vis the Brazilian government. This 'globally connected and locally grounded' elite (Turzi, 2012b) developed the capacity to build an alliance with the federal state, which has been reflected in their representation both in government positions as well as in Congress (Hopewell, 2014).

In the last decades, as agricultural production in Brazil consolidated into a large-scale agro-industrial model, domestic agribusiness capital increased its power and political influence (Hopewell, 2014). Several groups emerged to represent their interests, organising by sector and in far-reaching associations. One of the most influential groups has been the National Confederation for Agriculture and Livestock Production (CNA), created in the 1950s to defend the interests of milk and meat producers, and which developed into a more significant role in the 1990s with the modernisation and liberalisation of Brazilian agricultural production. The CNA unites the Agricultural Federations of all states and smaller unions grouped by municipality, and runs an extensive network of research and support for all producers, as well as working very closely with the national Congress. Probably the most obvious indication of the CNA's power was the appointment of Katia Abreu, CNA president, as Minister of Agriculture, Livestock and Provision in 2014. This was not the first

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appointment of an individual from the agribusiness sector, as Lula's cabinet during 2003 and 2010 also contained representatives from private industry (Hopewell, 2014). However, it was notable insofar as Abreu was considered a symbol of the emerging Brazilian agribusiness elite geared towards export markets and their potential for further expansion.

In the legislative branch, agribusiness interests are represented by the Parliamentary Front of Agriculture and Livestock (FPA). This alliance, commonly known as *Bancada Ruralista* (Rural Bench) was established in 1995 and has since represented rural interests in both the Senate and the Congress. The group consists of more than 200 members from diverse political affiliations, some of whom are agro-industrial producers themselves. Agribusiness elites not only work closely with political elites, but are also highly integrated into the political establishment, with large rural producers occupying key decision-making positions. As previously mentioned, Katia Abreu and Blairo Maggi are two of the most prominent examples of the overlap of private and public interests (Turzi, 2012b). This dynamic offers a new dimension to the federal conflict, as the confrontation between elites from agricultural and industrial states takes on a new form in Brasilia.

Distribution and the social compact

Much of Brazil's large public expenditure has taken the form of cash transfers that, along with other fiscal policies, have produced significant results in fighting poverty and inequality (Higgins and Pereira, 2013). Data from 2009 showed that social spending as a percentage of GDP in direct cash and food transfers was 5%, similar to spending on education (5.4%) and health (5.3%) (2013). The analysis conducted by Sean Higgins and Claudiney Pereira (2013) determined that while direct transfers reduce inequality and poverty significantly, this is usually tempered by other taxes and the effectiveness of these programs is well below OECD levels. However, transfers have some impact on these indicators, namely due to the large reach of the programmes.

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More so than in Argentina and Paraguay, it is difficult to determine the extent to which soybean, or the overall agricultural sector, contributed to this. This is mainly due to the different taxation capacities, and the instrument that most significantly levies soybean, ICMS, is held by subnational states. As a result, a large part of the soybean profit collected through taxes ends up in the hands of subnational states, particularly those where the production of soybean is located. In Mato Grosso, for example, soybean constitutes 50% of the subnational state's collection from ICMS (Noticias Agrícolas, 2016). These regions have expanded their economic capacities as a result of the consolidation of industrial agriculture and this fiscal arrangement thus contributed little to redistribution towards poorer areas like the North-East.

Total tax revenues as a share of GDP in 2013 surpassed 35%, and data from 2009 shows that social spending was 16% of GDP and accrued to almost 25% when including contributory pensions, not far from the 21% average of OECD countries (Amaral et al., 2015; Lustig, 2011; OECD.Stat, 2017). One of the most important items in the *federal* government's social expenditures, and a central pillar of Brazil's state-society pact, were the direct cash transfer programs which account for 4.1% of GDP (Lustig, 2011). The impact of conditional cash transfers (CCT) on reducing inequality and poverty is striking, with the Gini Index falling by 4.7% from 1995 to 2004 (Soares et al., 2010). Being the flagship policy of the Partido dos Trabalhadores' (PT) government, Bolsa Familia and other CCT programs became a core component of Brazil's social compact. Given that most of soybean's fiscal contribution went through ICMS, which was levied by subnational states, it is unlikely that revenues from the production and trading of soy have had an important role in sustaining the social compact.

At the subnational level, the different productive structures and diverse rates of ICMS tax partly explain the significant variation in budget sizes among subnational states. Revenue collection through ICMS and hence the availability of fiscal resources ranged from US\$110 million in the northern state of

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Roraima, or US\$ 244 per capita, to almost US\$25 billion, or US\$ 605,881 per capita, in the industrial state of São Paulo. Even soy producing states like Mato Grosso and Mato Grosso do Sul remained behind the industrial powers of São Paulo and Minas Gerais in terms of tax collection (IPEA, 2017). The latter benefited from having larger populations and hosting manufacturing industries, which translated in fiscal income more significant than that provided by soybean via ICMS.

While extensive social expenditure and CCT programmes were a progressive component of the Brazilian social compact, it is also important to point out that Brazil had one of the highest VATs in the region, with an average of 20.5% (CEPAL, 2013) – a regressive form of taxation, as it is levied on an individual's consumption regardless of income. Moreover, as noted earlier, the complex system of multiple levels of VAT created a cascading effect that impacts directly upon food prices. Considering that soy is a product consumed mainly by the poor (unlike in Argentina) (Oliveira, 2015), but with a rising place in all Brazilian households' consumption, taxation of its production had a doubly regressive effect on distribution. As mentioned earlier, EMBRAPA has estimated that the multiple taxes applied to agricultural products made up 34% of the final price of food (EMBRAPA, 2004).

Overall, during the governments of Lula da Silva and Dilma Rousseff there was a strong state-society nexus in Brazil that involved a request for reciprocity from the federal government in terms of redistributive policies. However, the participation of soybean production in this structure was limited by the country's highly fragmented federalism, which restrained the taxation capacity of the central government through the ICMS and through the Kandir Law. The efforts by subnational states to retain fiscal autonomy and maintain production within their own borders expresses how soybean became a significant source of power for states in regions in the Centre-West of the country.

Brazil's fiscal policies regarding soybean and agribusiness in general were marked by a very complex political and administrative configuration distinct for strong fiscal autonomy of regional states. As it was described in Chapter 4, the expansion of the soybean agro-industry in Brazil created new spatial dynamics at the domestic level in Brazil, particularly by bringing to the core of Brazil's economic system regions that had been historically marginalised. The intra-regional fiscal struggles described in this section reflect the efforts from large soybean producing subnational states to maintain the control over the wealth created within their regions and build leverage against industrial states like São Paulo. On the other hand, these conflicts and bureaucratic conditions limit the capacity of the national state to govern the emerging patterns of UD by enlarging social expenditure even more.

Paraguay: state co-optation by rural and urban elites

Paraguay is a very small state with one of the lowest levels of fiscal collection in the region, as well as one of the worst performances in terms of economic inequality and poverty reduction (Higgins et al., 2013). Argentina and Paraguay are located at the two extremes of the taxation spectrum in this regard. While in the former case the tax burden on the soy production chain represents an important cost on the final product, in the latter taxes are almost non-existent and producers obtain very high profitability. According to the President of the Paraguayan Chamber of Oilseed Processors and Exporters (CAPPRO), the profit margins of soybean producers in Paraguay are almost 100%, while their contribution to fiscal revenue is 'negligible' (interview CAPPRO, 2014).

Most of Paraguay's tax collection relies on the Value Added Tax (VAT), worth almost 34% of collected revenues, or 6% of the country's GDP (Higgins and Pereira, 2013). Agricultural production, while one of the most important economic activities, is subject to very low taxes. These consist of the tax on agriculture and cattle rent (IRAGRO, for its initials in Spanish), agricultural

VAT and property tax. IRAGRO was introduced in 2014 to replace its predecessor, IMAGRO, which was widely criticised for allowing large land owners to avoid a more burdensome rate by declaring their properties in separate and smaller tracts of land (Zárate A., 2011: 14). However, this reform did not modify the meagre 10% rate imposed on large producers' profits, most of whom, unlike in Argentina, are landowners and cultivate their own properties (interview UGP(c), 2014).

Unitary system with weak decentralisation

The 1992 democratic constitution of Paraguay established a unitary and decentralised state as an attempt to dismantle the power that had been concentrated in the national government during the authoritarian Stroessner regime (1954-1989). This reform divided the country into seventeen departments, but gave them no financial autonomy.³¹ Only in 1998 was legislation passed that decreed the distribution of royalties to departments, from the hydro-electrical dams Yaciretá and Itaipu (Nickson and Lambert, 2002). As for tax revenues, almost all remain in the control of the central government, the main exception being administration of property taxes - urban and rural - which was transferred to municipalities in the 1992 constitution (World Bank, 2007: 5).

Revenues from property tax in Paraguay are some of the lowest in the region, only amounting to 0.4% of GDP, compared with the average of 0.8% for Latin American countries (World Bank, 2007). Of this percentage, 0.2% is collected in the capital, Asunción, and the remaining 0.2% is from municipalities in the interior. Of this 0.2% levied in the interior, only 20% was contributed by rural lands, which means that tax paid by agricultural properties accrued to just 0.04% of GDP (World Bank, 2007). Furthermore, the municipalities are only

³¹ As a unitary system, Paraguay does not have any autonomous subnational states, like Argentina and Brazil. Departments in Paraguay are administrative units dependent on the central government.

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entitled to 70% of the revenue collected, while the remaining amount is distributed between the departmental government and poorer areas.

In addition to the limited resources held by departmental governments, Nickson and Lambert point to the decentralisation framework in Paraguay as a source of power for national ministries, which use this to expand their dominance over other levels of government (2002). The lack of capacity of departments and municipalities to decide property tax (legislation remains defined by the central government) and the absence of debate over any kind of revenue sharing system are evidence of the limited autonomy of local government vis-à-vis the central administration.

The rule of agribusiness elites

With the exception of the years 2008-2012, when the country briefly joined 'the left turn' in Latin America, Paraguayan politics has been dominated by the Colorado Party, a conservative, right-wing party that had been in power for 61 years before the election of the left-wing alliance candidate Fernando Lugo in 2008. This political elite has allowed the agribusiness sector to benefit from low fiscal pressure as well as the lax application of labour and environmental legislation consequently favouring the expansion of soy production on these conditions (Palau et al., 2016). Paraguayan political leaders have made use of the state's capacity and resources to favour agribusiness, with an explicit encouragement of soy production since the 1990s (Nickson and Lambert, 2002). In fact, President Horacio Cartes who assumed office in 2013 is known to have personal investments in the cattle, soy, tobacco and financial sectors (interview Base IS, 2014; Nickson and Lambert, 2002; Palau et al., 2016). The state agencies in charge of ensuring the distribution of land, such as INDERT, have been accused of corruption several times and were considered to be in alliance with large farmers and the agribusiness lobby (interview Base IS, 2014). In February 2012, a few months before Lugo's impeachment, the aforementioned agency was taken over by the government after suspicions

that properties that were allocated to small peasants were actually sold to soybean producers (Paraguay.com, 2012; Medina, 2012). Later, during the Cartes government, INDERT lost its redistributive purpose, and it practically stopped assigning land to small subsistence farmers (Alderete, 2015).

As previously mentioned, the first interruption to the six decade-long rule of this political-business elite nexus was the 2008 election of Fernando Lugo. The former bishop attempted to challenge some of the authoritarian and right-wing policies that had dominated Paraguay by shedding light on the extremely unequal distribution of land, the complete lack of environmental control, and the need for further taxation on agricultural and cattle production (interview Base IS, 2014; Cerna Villagra and Solis Delgadillo, 2012; Lambert, 2012). However, with a Congress controlled by the opposition and the pressure of powerful lobby groups, some of his proposed measures were never passed. According to academic Ignacio Gonzalez Bozzolasco, Lugo's policies 'threatened, though in a minor way, the basis of the oligarchic domination, the interests of the sectors that maintain it and even the imaginary that sustains it' (2013: 78).

On 15 June 2012, an eviction of 70 peasants and their families who were illegally occupying land in the department of Curuguaty ended in a massacre that cost the life of 11 farmers and six policemen. This event sparked a political trial against Fernando Lugo and in only 48 hours the then President was accused, judged, and impeached. While the process formally followed the constitution, the haste with which it was carried out generated uproar, not only in Paraguay but also in neighbouring countries. With many countries doubting the democratic nature of the impeachment process, Paraguay was consequently suspended from the regional bloc MERCOSUR. As Gonzalez Bozzolasco pointed out, it was not by chance that the event that led to the impeachment of Lugo was a rural conflict (2013), given how his efforts in bringing the agrarian reform to the foreground found constant challenge from the Colorado Party and agribusiness elites.

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Agricultural lobby groups perceived the election of Lugo as ‘punishment’ for the Colorado Party; directors of the Paraguayan Chamber of Oilseed Exporters and the Chamber of Processors argued that once the party ‘learned its lesson’, the best thing Congress could do was ‘to get rid of’ the democratically elected former bishop and his ‘redistributive policies’ (interview CAPPRO, 2014; interview CAPECO, 2014). Lugo’s successor, Federico Franco, quickly took measures which benefitted agribusiness elites, such as nullifying regulations on crop fumigations, publicly opposing any export tax on products like soybean, and naming a former president of an agrochemical company as the head of the National Service of Seeds and Vegetables Quality and Safety (Gonzalez Bozzolasco, 2013). These examples reinforce the claim that democratic institutions in Paraguay have been co-opted by private interests, both domestic and international (Turzi, 2012b).

An absent social contract

Fiscal pressure in Paraguay is among the lowest in the region, even if it experienced a sustained growth in the years following 2005 (Zárate A., 2011). The structure of fiscal revenues reveals a high dependence on indirect taxes, particularly VAT, and a remarkably low participation of the agricultural sector in revenue collection.

While it is not possible to determine here whether the Paraguayan fiscal system in its totality is regressive relative to other countries, there are a number of elements that indicate its lack of progressiveness in the distribution of the fiscal burden. Total fiscal revenues and government spending are less than 20% of GDP (Paraguay, 2015), a figure closer to countries like Mexico and Peru where the size of the public sector is smaller, and around half of the equivalent figures for Argentina and Brazil (Lustig, 2011). In 2014, agricultural producers contributed roughly US\$110 million to the Treasury (Paraguay 2015; Technology, 2014), while total state revenues that year amounted to US\$4,170 million. In other words, agricultural producers

contributed only 2.5% of the total revenue collection (Paraguay, 2015), and in particular IRAGRO collected only 1.4% of the total (ABC Color, 2015b). A recently published report from research institution Base IS established that the total tax contributions of the agriculture and cattle sector in 2014 allowed the government to fund only three days of state functioning (Palau et al., 2016). Moreover, this calculation does not take into account the money received by producers from the state in subsidies, particularly with regards to the price of diesel.

While increasingly dependent on agriculture – which by 2010 represented more than 20% of total GDP (World Bank, 2015) Paraguay's fiscal pressure on this sector remains remarkably low, and as a member of a research institution told me, soybean production in particular simply 'does not contribute to the economy' in terms of fiscal resources or spill-over effects on value-added industry (interview IPIE, 2014). One indication of this state of affairs is the fact that soy producers pay more to the US-based agricultural input supplier Monsanto in royalties than they do to the state in taxes (interview Base IS, 2014).

The incapacity or unwillingness of the state to tax the most successful economic activity in the country has reduced the fiscal space for poverty reduction policies through social spending, consistent with Paraguay's poor performance in social indicators, as the country had the highest poverty and inequality in the region (Higgins et al., 2013). Yet this lack of revenue collection seems to be an expression of the non-existence of a complex fiscal pact between state and society, or what we might call an *absent* social contract. The high concentration of land ownership and the lack of efforts towards its redistribution (Palau et al., 2016; Alderete, 2012), as well as the reduced social spending and the conservative macroeconomic policies (see Chapter 7), hint at the limits of the redistributive efforts of the Paraguayan state after Lugo's presidency. In summary, this non-existent contract and the centralised nature

of the state has granted agribusiness elites great influence over fiscal policy (Rodriguez and Villalba, 2015).

The different dimensions of Paraguayan fiscal policy explored in this section have shown the large influence exercised by agribusiness elites, closely linked to a centralised government that runs a much reduced public spending budget, a sign of an almost absent social contract between state and society. Paraguay is, in this sense, on the opposite side of Argentina regarding natural resources taxation, and hence not enforcing redistribution of the profit generated by the soybean industry. Contrary to this, the fiscal structure of the Paraguayan state seems to be designed so as to incentivise further production while at the same time laying most of the fiscal pressure on the consumers, through the VAT. As such, not only is fiscal policy *not* used to manage the impact of the seesaw movement of capital, but it reproduces the imbalances and patterns of UD embedded in the expansion of soybean capital. The contrasts between an industrialised, homogenous countryside and the urban space, where many displaced farmers and peasants move – thus creating even further disparities in the social and economic landscape of the country – is additionally pronounced with these policies. Not only at the national level, but also regionally, the described fiscal strategy reinforces Paraguay's situation of underdevelopment as a provider of produce in its natural form, sent to be further processed in its neighbouring countries.

Conclusion

This chapter analysed tax systems in the Southern Cone as one of the policy instruments available to the state for the management of dynamics of UD emerging from the expansion of soybean capital. It was argued that the design and implementation of these fiscal structures mediate the distributional conflicts that arise from an increase in soybean revenues both from exports and domestic sales. The availability of revenues proceeding from natural resource exploitation in the context of a global commodity boom can either

reinforce patterns of UD or be used for the amelioration of its effects. National states have the ability to either remain absent from these processes, or intervene, through a number of policies, in order to govern the political economy of agribusiness. This chapter has focused on the use of fiscal policy as an instrument for governing the distribution of wealth created through the soybean complex, and more specifically to understand how political regimes, power struggles among elites, and the state-society nexus play out in this distributive effort.

The three cases analysed - Argentina, Brazil, and Paraguay - differ as to the manner in which federal institutions, business and political elites, and social compacts interact and play out. Argentina is the case where tensions over the distribution of soy revenues are most evident. There, a very centralised federal system based on discretionary transfers and the rupture between agribusiness elites and the state allowed the government to extend the social compact with the objective of supporting its electoral goals and establish what Richardson has termed 'export-oriented populism' (Richardson, 2009). Argentina is the case in which the state has most clearly intervened to alter the spatial patterns created by capital expansion, but it is not evident that the depth of the unevenness has been reverted. While the Brazilian fiscal pact is similar to Argentina in terms of levels of tax revenues and social expenditure, Brazil's very strong federal dynamic produces a quite different result. Brazilian subnational states hold extensive authority in the levying of taxes which creates tensions across states as well as with the federal government. Moreover, the capacity of the national state to address geographical imbalances is limited by the extensive prerogatives held by Brazilian states. In Paraguay the situation is quite different, as a unitary system and a weak social compact put rural elites in a strong position to impose and even co-opt the national authorities in the executive power and Congress.

The emergence of the post-neoliberal state in Latin America was marked by a re-definition of state-society and state-market relations. The latter entailed

a more active involvement of the state in the economy, while the former required the state to expand its social duties and re-build a connection with society through the increased provision of social goods. As taxation constitutes one of the state's main tools for strengthening its capacity for social spending, as well as to incentivise or de-incentivise economic activities, this chapter aimed at understanding how and to what extent fiscal strategies served as a resource to govern the uneven dynamics created by capital accumulation in the soybean complex. While the capacity with which each of these countries has addressed said dynamics is framed by the existing political regimes, this chapter has shown how different strategies pursued by these countries reflect varieties of governance of uneven development. In Argentina, while stronger state intervention in defining taxes and their distribution expanded the social contract, it also provided the conditions for the expansion of soybean and the retraction of other crops and sectors. The governments of Lula da Silva and Dilma Rousseff in Brazil were also committed to expanding the state-society nexus, but demands from subnational states and federalist institutions constrained this capacity and in turn created new uneven patterns across regions of Brazil. Finally, Paraguay represents the early retreat of the postneoliberal state, whereby the state's role is linked to the enhancement of the capital accumulation process of the soybean complex and consequently the heightening of uneven development dynamics.

The empirical analysis presented here has highlighted the role of domestic institutional, political, and social conditions in the formulation and implementation of such policies, and how these have in turn influenced the redefinition of the state in Latin America in the twenty first century. This chapter presented how there are varieties of resource taxation, thus showing, first, the capacity of the state to intervene in the governance of agribusiness and the UD of soybean; and second, the diversity in the approaches taken by the different states affected by the same process. While confronted with similar dynamics of expansion of soybean revenues, the analysis presented

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shows how different states developed varying capacities and interests in governing the distribution of the commodity boom's proceeds. The next chapter will further explore these strategies by analysing macroeconomic policies, more specifically exchange rate policies, which have also been under-analysed by resource curse literature.

7. Macroeconomic policy and redistribution: the politics of currency

Introduction

As soybean production and exports have come to represent an increasingly important portion of the total trade and economic activity of the three countries in question, each state has had to adapt its economic policies in order to manage the large inflows of US dollars resulting from the significant increase in value and volume of their exports. This chapter's focus on macroeconomic strategies, and especially on exchange rate policy, sheds light on how markets and states interact and co-constitute each other in space. Currencies and exchange rates (re)produce the borders of the national economy, and in that sense, act as reterritorialising mechanisms for reaffirming the state's authority over movement of capital within and across the nation-state. While state intervention in processes of uneven geographical development does not necessarily imply that states are able or willing to tame or eliminate these dynamics, it does demonstrate that states can alter or even deepen them. As such, the key aim of this chapter is to better understand the politics of state management of UD, with specific attention to macroeconomic policy.

This chapter continues to explore the role of the state in Argentina, Brazil, and Paraguay as well as its capacity in correcting the allocation of wealth created by the soybean sector. While the previous chapter focused on the manner in which fiscal policies can have redistributive impacts on a multiplicity of scales, and thus mitigate or facilitate UD, this chapter explores the politics of macroeconomic policy, and how these economic variables can have an impact on the distribution of wealth. The purpose of this chapter is to further analyse the role of the state in governing processes of UD created by

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the consolidation of capital accumulation based on soybean production, by looking into policies that act as to deterritorialise or reterritorialise capital flows. In particular, this chapter will chiefly examine exchange rate policy as a central tool in these strategies.

This chapter will address how soybean's spatio-temporal complex has created patterns of uneven development through the large inflow of foreign currency derived from these commodity exports. These inflows, in turn, create new dynamics in the macroeconomic balance of national economies, for example, by appreciating the national currency and impacting negatively upon other productive sectors. The state's capacity and strategy in reaffirming its authority within these transnational processes of capital accumulation has been different for each of the countries studied in this thesis. This chapter will argue that Argentina, Brazil, and Paraguay deploy different strategies to govern the soybean complex and the dynamics that emerge from its expansion, while also being limited by various factors. Consistent with the findings in the previous chapter, the analysis of macroeconomic policies exposes the contradictions and tensions that confront states when they attempt to govern the effects of the soybean complex, while also maintaining neoliberal state-market relations.

This chapter will explore the macroeconomic policies implemented during the soybean boom and the way in which they have influenced and been influenced by, the expansion of this sector. It will focus in particular on exchange rate policies and their role as mechanisms for redistribution, while also exploring how other aspects of the macroeconomic framework, such as inflation, the current account balance, and public debt affect the reallocation of profits. First, this chapter will analyse the policies implemented in Argentina to manage the exchange rate and control the foreign currency market, as a mechanism to transfer profits from the soybean sector to other sectors of the economy and to the state coffers, as well as its impact on other indicators affecting redistribution such as inflation. The following section covers the

evolution and fluctuations of the Brazilian macro-economy, as well as the implications for the sectoral alliances supporting the PT government, namely, formal and informal workers. The fourth section then analyses the Paraguayan case and examines how efforts to achieve macroeconomic stability have further enhanced processes of UD. The chapter will conclude by explaining how the politics of currency management can act as governance mechanisms of UD, and how the framework developed by each country is consistent with the redistributive effects of tax policies described in the previous chapter.

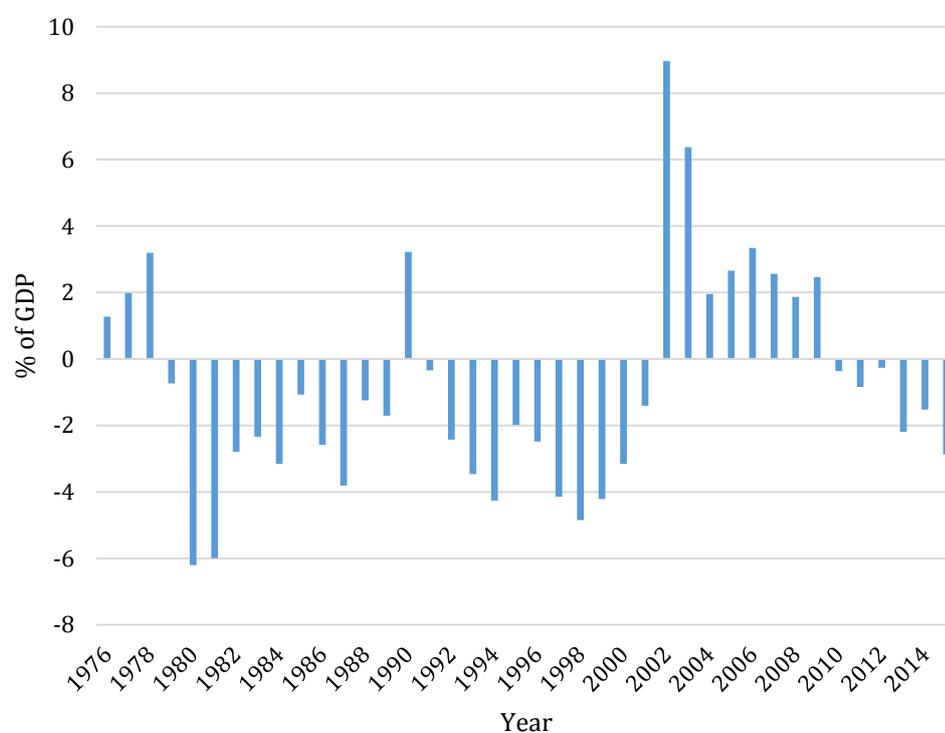
Argentina's exchange rate policy: exchange rate controls, overvalued currency and the 'soy dollar'

In 1998, and as a result of the policies conducted during the 1990s, Argentina entered an 'unprecedented crisis' that affected the entire Argentine economy, producing a drop in industrial activity and a fall in GDP of 7.2% (Azpiazu and Schorr, 2010: 149). The crisis brought down the government in 2001 in an event that represented a significant cleavage in the political, social, and economic history of the country. These events were the dramatic expression of the problems that the neoliberal model had been fostering in Argentina society for decades. The arrival in power of Nestor Kirchner in 2002 initiated a new period of growth and reconstitution of the social safety net that had been disarmed by the preceding accumulation regime. This change was interpreted as the end of neoliberalism in the Argentina – a turn to the left that broke with many of the prior policies (see Chapter 2). However, as it has been suggested throughout this thesis, there were very significant continuities as well. Cristina Kirchner's government has been much praised for its achievement of significant growth levels during her administration by renowned economists such as Paul Krugman (Krugman, 2012). This favourable economic performance, which was an important driver behind her electoral success (Weisbrot, 2011), was sustained mainly thanks to the large expansion of exports. These played a key role in both the provision of fiscal revenues, as was

detailed in the previous chapter, and the inward flows of foreign currency, which will be examined more closely in this chapter.

The 1990s in Argentina saw the culmination of neoliberal reforms that were initiated in 1976 during the final military government (Varesi, 2010). In terms of macroeconomic stability, the main feature of this decade was the establishment by law of a parity between the US dollar and the Argentine peso, which was the centrepiece of a series of reforms that aimed at controlling inflation by depoliticising monetary policy (Galiani, Heymann and Tommasi, 2003). This ‘convertibility model’ led to an acute dependence on debt, as such an overvalued currency could not be maintained and resulted in the aggravation of the country’s balance of payments, as exports lost competitiveness on the global market. As Figure 7.1 shows, until 2002, the Argentine current account balance held a sustained deficit. The Argentine

Figure 7.1 Current account balance (% of GDP), Argentina, 1976-2015



Source: World Bank, 2017.

agricultural sector – historically very export-oriented – was negatively affected by this situation, especially as changes in production meant an increasing dependence on costly inputs, and as their revenue fell, the sector's indebtedness increased greatly during this period.

On the first days of January 2002, after the massive protests that erupted in December 2001 and ended with the resignation of the President and his entire government, creating an institutional crisis, the Argentine Congress repealed the convertibility law, which had been valid for over 10 years. The post-convertibility model that emerged in the following years, gave rise to, according to Gaston Varesi, six significant policies: devaluation of the national currency; implementation of export taxes; the 'asymmetric pesification of the debt'; the bailout of the financial sector; default; and a price freeze on service tariffs (Varesi, 2010: 146). Two of these policies were of particular importance for agriculture production and had a significant impact on the dynamism that characterised it in the following decades. The first one is the *pesification* of debt. This meant that all debts in US dollars would be paid in pesos at a rate of US\$ 1 to ARS\$ 1 (Argentine peso), while the fixed exchange rate had already been abandoned with the repeal of the convertibility law. The second important policy was the devaluation of the currency, which, for the agriculture sector, meant that local production was more competitive on the global market. As a result, devaluation and pesification of debts allowed producers to expand their exports, and hence their revenues, while paying a reduced debt. Consequently, heavily indebted agricultural producers managed to liquidate their debts (interview Los Grobo, 2014). When in 2003 the international price of commodities started its upward trend, the sector experienced a newfound dynamism that turned it into one of the main drivers of growth in the national economy.

With the disassembling of the convertibility model, the agricultural sector was, in a way, unlocked from the constraining, debt-ridden monetary system and a new dynamism was re-established. This of course happened in tandem

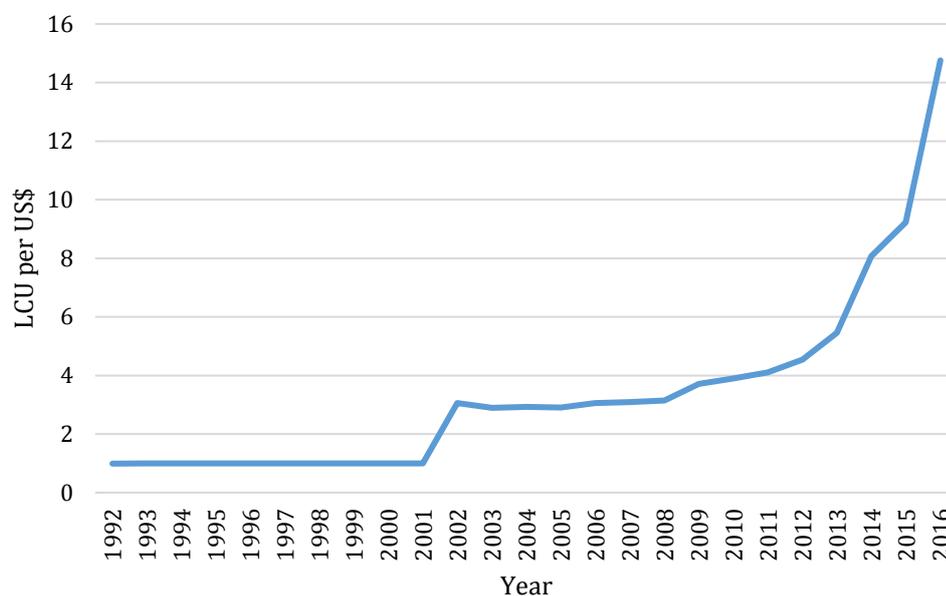
with the structural productive changes and more importantly, with the increase in the international price of all commodities. The depreciation of the Argentine currency lifted that limitation to profitability that the convertibility model had imposed on the sector (Varesi, 2010: 112). As such, it represented a shift from a deliberately overvalued currency, which was more beneficial to the financial and industrial sector, to a deliberately undervalued one, through a managed floating system, which was largely advantageous to the export sectors, and to agribusiness in particular. While the post-convertibility model was presented as an alternative to the neoliberal state by the Kirchner government, it was ostensibly more concerned with issues of industrial development and national growth. In opposition to the free flow of capitals that had characterised the previous era, the new model enabled the expansion and accumulation of capital in the agricultural sector and more specifically in soy production. It was a key element in the UD's dynamic of concentration and inflow of capital.

The monetary policy that best defined the post-convertibility or post-neoliberal macroeconomic model was the establishment of a 'stable and competitive real exchange rate' (SCRER) (Frenkel and Rapetti, 2007; Amico, 2008: 85). This meant sustaining a high exchange rate for the dollar, initially floating within a nominal band of ARS\$2.85 - \$3.1 per dollar, as reflected in Figure 7.2,³² which made Argentine exports cheaper – and hence more competitive – in international markets (Frenkel and Rapetti, 2007: 7; Rivera-Quiñones, 2014: 69).³³ Maintaining a high SCRER was the cornerstone of the post-neoliberal macroeconomic model and a key instrument in the redistribution of resources across economic sectors. More specifically, the

³² As it was mentioned in Chapter 6 and will be further explained in the following section, due to irregularities in the calculation of the Consumer's Price Index since 2007, data from the Argentine National Statistics Institute (INDEC) was deemed unreliable by the IMF and other international institutions. As a result, there is no official calculation of the Real Exchange Rate (RER) for this period (see *The Economist*, 2012).

³³ For a detailed account of monetary and exchange rate policy after the abandonment of the convertibility regime, see Frenkel and Rapetti, 2007.

Figure 7.2 Official Exchange Rate (Local Currency Unit per US\$), Argentina, 1992-2015



Source: World Bank, 2017

SCRER or 'high dollar' policy provided the exporting sector with financial support that radically increased its dynamism, as shown by the increase of 121% in exports between 2002 and 2007 (Varesi, 2010: 146). As shown in previous chapters, products of the soybean chain represent almost a third of the overall exports from Argentina, and are as such the single largest group of export products. In short, it can be argued that the 'high dollar' policy *was* a soybean policy.

The main instruments for the maintenance of the high exchange rate were financial sterilisations, export taxes, and low interest rates. In order to ensure an expensive US dollar, the Central Bank was forced to buy dollars from the domestic currency market, lowering its circulation, thus demanding increased monetary supply and, by injecting liquidity to the market, it risked an increase in prices. To keep inflation at bay, the Central Bank released a number of credit notes and debt bonds in order to neutralise these effects and ensure monetary

stability (Redrado, 2011: 18). These instruments reached a maximum of ARS \$60 billion in stock in 2007 and 70% of these titles were held by financial institutions domestically (2011: 18). The aim of this mechanism was to absorb the ‘excess’ monetary expansion by generating debt, which cost the state an increase of public debt of over US\$ 6 billion (Damill, Frenkel and Rapetti, 2005: 218). On the other hand, low interest rates were maintained as a double mechanism of controlling inflation and limiting the inflow of international capitals that could alter the balance of the currency exchange rate (Redrado, 2011; Rivera-Quiñones, 2014).³⁴

As for the third instrument, it was explained in the previous chapter that export taxes were reintroduced with the 2001 crisis and increased throughout the following governments of Nestor Kirchner and Cristina Fernandez de Kirchner. Of all exports, soybean in particular had the highest tax rate– 35% for beans and 32% for processed products – which further enhanced their key role in the country’s fiscal and macroeconomic policy. While according to a former Secretary of Economic Policy, the export taxes responded to a fiscal issue – meaning, finding sufficient tax income to finance public expenditure – rather than to provide a supply of dollars (interview LCG Consultant, 2014), as a result of this measure Argentina became the country with the fourth highest foreign exchange reserves in Latin America (IMF, 2012 cited in Rivera-Quiñones, 2014: 71). Whether intended or not, the soybean complex became the single most important contributor of foreign exchange to the Argentine economy, bringing in almost US\$ 18 billion in 2010 (Rivera-Quiñones, 2014: 75).

The combination of the high dollar policies, an expanded export sector, and sizeable export taxes provided the government with a dual capacity. Firstly,

³⁴ After reaching a peak in 2002, and after the nominal exchange rate was stabilised, interest rates of credit notes remained relatively low. This prevented the flow of international capitals that could overvalue the peso and hence alter the SCRER. For a more detailed explanation of the functioning of the SCRER, see Frenkel and Rapetti, 2008.

the fiscal resources enabled the expansion of social expenditure – which has been addressed in the previous chapter. Secondly, the state was able to pursue an industrial policy of productive expansion. The recovery of industrial capacity, as well as increasing levels of employment, was a fundamental piece of the post-neoliberal state's political base. Argentina had entered into a recession in 1998 that contributed to a decline in several productive and socio-economic indicators as a result of the limitations imposed by a disequilibrium in the balance of payments (Amico, 2008: 88). Unemployment and underemployment levels were at 17.4% and 15.6% respectively in 2001, and manufacturing value-added dropped by 17% in real terms between 1997 and 2001 (Grinberg and Starosta, 2014: 261). According to Frenkel and Rapetti (2007), the SCERER favoured the correction of the balance of payment deficit, which allowed the stimulation of other sectors. The export sector consequently played a significant role in the regeneration of the economy. As one interviewee, an official at the Ministry of Agriculture during the Kirchner administration, put it:

The agricultural sector is the most competitive [economic sector] and produces US dollars. (...) The Argentine society needs goods that can only be acquired with US dollars, and the only [sector] that generates US dollars is food. The automotive sector does not generate any foreign currency. When industries are joint ventures or for motives of scale they move to neighbour countries, the foreign currency goes abroad (interview, Ministry of Agriculture Argentina, 2014).

The underlying dynamic is a contradictory movement between the compensation of forces of UD while at the same time facilitating a reinforcement of these. On the one hand, a competitive exchange rate creates clear opportunities for the expansion of the export sector, and given the domestic and international circumstances especially so for soybean production, creating an inflow of investments and concentration of capital

around this particular activity. As Grinberg and Starosta³⁵ put it, the devaluation and new currency exchange regime not only enabled the expansion of commodity exports, but it also ‘removed what during the convertibility regime had constituted a specific barrier for the extensive and intensive application of capital in the primary sector’ (2014: 265). With an undervalued currency, the post-neoliberal regime enabled the expansion of capital accumulation in the agricultural sector, as producers and landowners increased their profits, which was followed by increasing investment in this economic activity, allowing agriculture to become more capital intensive. In other words, it created the conditions for the intensive concentration and centralization of capital necessary for the process of accumulation (Smith, 2010).

On the other hand, the monetary and financial circumstances that are created in this movement are acted upon by the government as a way of redistributing part of this inflow towards other sectors, such as industry. As such, an undervalued peso acts as a mechanism of distribution from the agro-export sector towards industry, mainly as a way of financing the import of capital goods inputs needed for production. For example, Rivera-Quiñones analyses the year 2010, when increase in imports of capital goods and capital goods replacements demanded a total of US\$ 7.2 billion to cover these costs; and that year’s contributions in foreign exchange from the soybean complex were sufficient to cover 58% of that amount (2014: 75). This analysis leads the author to suggest that the liquidation of earnings in foreign currency by the agricultural sector was ‘the foremost contributing factor’ to the 67.3% output increase by the industrial sector in the years 2004-2010 (2014: 74). In other

³⁵ The work by Grinberg and Starosta (2014) offers an analysis of ground rent distribution in Brazil and Argentina. The authors argue that the progressive governments in these countries transferred resources through the appropriation of the *ground rent* from the agro-industrial sector to the industrial bourgeoisie, as a condition for their hold of power. This chapter draws on the data elaborated by the authors, namely the role of currency variations and inflation. However, this is used to show the impact of macroeconomic policies, rather than assuming the thesis proposed by Grinberg and Starosta on the role of *ground rent*.

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words, the US dollars exchanged by agricultural producers were used to finance the imports of capital goods and industrial spare parts that allowed the industrial sector's increased output. By intervening in the money supply and the foreign currency market, the Argentine government was capable of reterritorialising part of the capital flow created through soybean exports and redirecting it towards the domestic industrial sector.

This redistribution of profits from the agricultural to the industrial sector could be perceived as detrimental to transnational agribusiness corporations and large commodity traders. However, these measures continued to enhance the concentration of capital in fewer powerful companies. For example, in crushing and oil production, 11% of the companies accounted for 51% of the crushing activity, while in overall exports, the top five companies dominated 66% of the total volume of exports, with only ten operating almost the totality of the exports (MECON, 2011). Instead, the government created a conflict with agricultural producers, whom, as mentioned before, were the final payers of the export tax. Besides transferring that cost to the producers – and also keeping part of that cost (see Chapter 6) – transnational traders were also supported by the government through the Capital and Infrastructure Investment law, as they received 23% of the subsidies granted under that legislation (Rivera-Quiñones, 2014: 80). This legislation, passed in 2004, provided a number of fiscal incentives to both large companies and small and medium enterprises looking to invest in capital goods or to expand their own productive infrastructure. In other words, the law supported the enlargement of built environment necessary for the expansion of production and capital accumulation. According to Daniel Azpiazu and Martin Schorr, several of the main companies benefitting from this scheme were oriented towards exports, and this included soy processing industries like Molinos Rio de la Plata, Cargill, and Louis Dreyfus (2010: 278).

In October 2011, after the presidential elections in which Cristina Fernandez de Kirchner was re-elected in the first round, an additional control on the US

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dollar market was imposed. The so-called 'dollar clamp' prevented the free purchase of US dollars in the foreign currency market, instead making it conditional upon the fiscal agency's approval (La Nación, 2016). Given the lack of trust in the domestic currency – due to a history of repeated cycles of hyperinflation – Argentinians have generally relied on the US currency as a saving mechanism. This clamp thus had the aim of reducing capital flight and preventing the drainage of the country's foreign currency reserves. However, this created a black market for the dollar and a parallel exchange rate, known locally as the 'blue dollar'. In May 2012 the difference between the official exchange rate and the unofficial one was 35% (Blanco, 2012) and this tendency continued to increase, as a year later the blue dollar rate was almost twice the official rate (The Economist, 2013).

These fluctuations affected the expectations of the agricultural sector, especially that of producers. All their operations were priced in Argentine pesos at the official exchange rate of the day, thus creating uncertainty among producers and a sense of being negatively affected by this policy. As the chief economist from the Buenos Aires Grain Exchange explained:

The problem is the exchange rate. The producer access the ARS \$8.5 [official exchange rate] minus the 35% [of export tax] making it around \$5 something. The blue [dollar] is around ARS \$15. These gaps affect expectations. (...) They affect the producer's decisions. (...) Every time that there are expectations that are not associated to a climate of stability, each person takes their own decisions about what to do (interview Bolsa de Cereales, 2014).

For agricultural producers, the existence of two parallel 'dollars', an official and an unofficial (or 'blue') one, represented a monetary loss, as they were required by authorities to exchange the profits from the harvest into Argentine pesos at the official rate. In this context, a possible further devaluation of the currency to close the gap with the black market would mean a potential increase in profits for producers. Given these speculations, many started

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considering whether or not to sell produce at a certain time, with the expectation that the exchange rate would be modified in the future.

A key component that made this decision possible – to sell or not – was the existence of silo bags. Silo bags are reinforced plastic bags for grain storage that allowed the farmers to enlarge their stocking capacity without making investments in large structures or depending on a third party. This made them an important element in the growth of the agricultural industry (interview Bolsa de Cereales, 2014; INTA, 2014). But they also became an instrument of resistance and a source of leverage agricultural producers could yield against the government. In this context, it meant that producers could withhold production when they were uncertain of the value of the dollar and hence of their own produce. The silo bag became a symbol of resistance from the farmers, an obstacle to the efforts by the government to reterritorialise soy profits, as it questioned the state's authority imposed via exchange controls.

The use of these storage facilities meant 'a guarantee of US dollars' for many producers (interview Molinos, 2014). Silo bags allowed producers to retain and store a significant amount of the harvest for up to two years. As long as producers held soybean, they held the capacity to acquire US dollars, though they remained inevitably attached to the official exchange rate. In a context of a double exchange rate, the producer 'does not have anything to invest in, they do not have an incentive to sell soybeans' (interview Molinos, 2014). Though in some occasions, this meant producers sold their production at a lower price than at the moment of harvest, effectively reducing their profit margins (interview Molinos, 2014). According to Hélyette Geman, only 6% of the crop had been given to crushing plants and exporters in January 2014, a clear drop with the 11% and 25% levels sent by the same time in 2013 and 2012 respectively (Geman, 2015: 17).

Eventually, soybean and its sale and liquidation into pesos became 'an obsession' for the government, with producers feeling pressured by the fiscal

agency into selling their stock as well as by threats and vandalism directed against the silo bags. These storage facilities became a site of struggle themselves and a symbol of how important soybean had become to the Argentine government. The phrase *Haga Patria: corte un silobolsa* – which can be translated as ‘Help your nation: cut a silo bag’ was written as graffiti in Cordoba, one of the largest soybean producing provinces in Argentina. There, many silo bags were cut, thus releasing the grains and spoiling the production (Bertello, 2014a; 2015b). Failure to control the liquidation of production evidenced the limits to the governance of the soybean-based capital accumulation process the government had helped unlock.

In this struggle over the control and distribution of resources, soybean became, figuratively, a currency in itself: the *dólar soja* (soy dollar) was part of the everyday debate on the state of the economy, and practically had its own exchange price (Dalto, 2015; Bolsa de Cereales, 2010: 4). The soy dollar was determined mainly by the international price of the commodity, the level of export taxes, and the official exchange rate. Based on this ‘price’, producers determined the levels of production for the following season, which could mean a decrease in fiscal collection for the state. The different stages of devaluation of the Argentine peso meant that soybean prices in this currency increased by a larger proportion than the price of soybean futures in CBOT in US dollars (Geman, 2015: 17). Overall, soybean remained a stronger and more stable asset than the Argentine currency, as part of its further transformation from a commodity into its exchange value. Not only does the exchange value overcome the use value, but the grain itself becomes a container and a guarantee over fluctuations in the Argentine peso.

This case raises an important question: Is the management of the foreign currency market an effort to re-balance the unevenness created by capital accumulation? Or, in the theoretical terms set out in this thesis, is the state counter-acting UD or actually reinforcing it? On the one hand, efforts towards redistribution to other sectors are a way of alleviating the imbalances created

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by UD; but on the other hand, these same policies promote a concentration of capital and investment in a few companies and in soybean as the dominant crop. Additionally, this is done in a model in which agriculture serves the role of provider of foreign currency, rather than provider of food. The period after the collapse of the convertibility system led to a macroeconomic regime that was largely sustained by a high and stable exchange rate and the expansion of the export sector, dominated by soybean and favoured by the elevated international prices. This regime reinforced the processes of centralisation and concentration of capital in the soybean complex, in order to redistribute profits to other sectors and provide macroeconomic stability for the country.

The endless Argentine disease: inflation and redistribution

Exchange rate policy in the context of an economy dependent on primary goods exports and industrial input imports affects levels of inflation, which is an important measure of redistribution. While the SCRER allowed the government to promote exports and distribute incentives to other sectors, it also created the conditions for the increase of inflation, and this post-neoliberal regime was marked by the tension between maintaining the SCRER and controlling inflation.

After the 2001 crisis and consequent default and devaluation of the national currency, the Argentine economy started registering signs of recovery, which was accompanied by increasing levels of inflation. In January 2007, when inflation was reaching 2.1%, the Argentine government decided to intervene in the affairs of the National Statistics Agency (INDEC), under the justification that the inflation figures were being manipulated in order to benefit foreign debt creditors, and dismissed the authorities responsible for the Consumer Price Index. There was a new methodology implemented, which created great discontent and overall expanded mistrust over the official rates of inflation. The discrediting of these figures came from academic and journalistic sources – even from international organisations, with the IMF censuring the country in

2013 due to its lack of reliable data (Rastello and Katz, 2013). Private alternatives to this index started to emerge, thus generating parallel inflation indexes. One of the most well-known was developed by economist Alberto Cavallo, based at Massachusetts Institute of Technology (MIT), who created a new price index based on online prices. His estimations – as well as other private analyses – show a large mismatch with the official figures which increased over the years. According to Cavallo, between 2007 and 2011 the official price index increased by 35%, while private estimations showed a rise by 100% (Cavallo, 2013: 158).

Inflation becomes a redistributive issue due to its impact on people's purchasing capacity and consequently raises the question over whether real wages are accompanying this trend or not. Maintaining control over levels of inflation, however, creates a tension with the macroeconomic objective of maintaining a competitive exchange rate. A high US dollar, or devaluated peso, can push prices upwards as imports become more expensive and provoke monetary expansion, which increases liquidity in the market and encourages consumption. As far as the connection between inflation and the developments of the soybean activity and the policies surrounding it, two important factors emerge. On the one hand, devaluation affects real wages and hence, a policy that overall benefited the exporting sector is regarded to be detrimental to the domestic population, particularly the working class. As Amico (2008) argues, devaluation of the currency was meant to adjust the imbalance of the balance of payments, with the effect of constraining and limiting imports. Domestic production and consumption was reduced, pushing towards a decrease in the real wages of workers (Amico, 2008: 84). This is what many accused Roberto Lavagna, Minister of Economy between 2002 and 2005, of implying when he declared that Argentina's exit from the convertibility regime in 2002 was 'the most successful case of devaluation in the world' (Pagina 12, 2003). From this approach, the high dollar model - 'real exchange rate high and stable' - as the cornerstone of the post-neoliberal state

in Argentina creates an equilibrium in which redistribution based on real wage is incompatible with the expansion of accumulation.

On the other hand, as Neil Richardson explains, the imposition of export taxes, particularly on soybean during Nestor Kirchner's government, was fundamental in maintaining an electoral alliance with both the industrial sector and the working classes. According to the author, since soybean is not consumed domestically, its promotion as an export product through devaluation would not affect the prices of the population's food basket. At the same time, fiscal funds collected through the imposed taxes allowed the Kirchner government to broker deals with businesses, offer subsidies to more domestically relevant sectors such as beef and maize, and overall control the pressures over inflation (Richardson, 2009: 242).

However, the argument over inflation control becomes less credible when compared to the evolution of the privately measured consumer prices. In February 2008, INDEC was putting inflation at 8.4% while private forecasts suggested inflation to be somewhere between 18% and 24% (Credit Suisse, 2008: 61). Around this time, a new Minister of Economy was appointed, Martin Lousteau. According to a former official, the principal aim of his tenure was 'to normalise INDEC and the price index. (...) Why? Because if you want to do anti-inflationary policy, you need to know the real levels of inflation' (interview LCG Consultant, 2014). In this post-election context,³⁶ there were 'real interest rates absurdly low, an anchored exchange rate and nominal wages growing by 25%, 30%' (interview LCG Consultant, 2014). The macroeconomic objective was then to slow down the economy and lower subsidies as a way of controlling inflation. However, internal struggles determined that the best way to address these issues was to increase fiscal contributions that would allow the government to continue with its expanded subsidy policy without putting more pressure on the price level. The main target for expanding fiscal capacity

³⁶ Cristina Fernandez de Kirchner won the presidential election in October 2007, taking over from her husband, Nestor Kirchner on December 10th 2007.

was thus the agricultural exports, which was attempted through the executive order 125 (see Chapter 7).

As mentioned in the previous chapter, the export taxes did not affect only soybean, but also a number of other crops with much more importance for the domestic consumer such as corn, wheat and sunflower, which are also connected to the cattle industry. The government attempted to implement export quotas for these products and other measures to limit the rise in prices, but by 2014, annual inflation was estimated at 38,5% (Infobae, 2015). This was also partly due to the fact that many wheat and sunflower producers moved into the production of soybean, where profit margins were larger. For these products, Neil Richardson's analysis falls short, since they end up affecting the worker's basic food basket, and hence the government faced a trade-off between fiscal collection and inflation of food prices.

While it exceeds the scope of this research to determine the economic role of soybean expansion in the variation of the inflation rate throughout this period, it is possible to point to the emerging contradictions between redistribution, capital accumulation and governance in this economic context. It is, in a way, a reflection of the patterns of UD created by the accumulation process and, yet again, of the state's limitations in its capacity to exercise governance and to avoid trade-offs between the expansion of fiscal collection and the maintenance of SCRER, on the one hand, and keeping inflation at bay, on the other.

Brazil

While changes in the exchange rate and exchange rate policy in Brazil have not been as drastic as in Argentina, the macroeconomic balance of the Brazilian economy has been affected by changes in domestic politics and in the global political economy. After the introduction of the Brazilian Real (BRL) in 1994, and a significant devaluation in 1998, it is possible to segment the evolution of the currency in three periods: until 2004 there is a progressive devaluation;

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from 2004 to 2011, there is an upward pressure on the BRL; while from 2012 onwards the currency once again experiences a period of depreciation. The context of these changes point to speculative inflows of capital betting on the Brazilian currency. This was partly due to expectations of appreciation of the currency in a context of rising international commodity prices.

This section will first analyse the different strategies implemented by the Brazilian government – first during the two terms of President Lula da Silva, and the first term of President Dilma Rousseff, both politicians being from the Workers' Party (PT) – followed by an examination of inflation levels and external debt and the co-relation between these indicators and the expansion of the soybean complex in the Brazilian economy. Overall, this section shows how openness to capital flows limits the state's capacity for reterritorialization of certain capital flows and its ability to manage the emerging UD patterns.

Exchange rate policy: between inflation targeting and cross-border capital control

Similar to Argentina, and to many other Latin American countries, issues related to inflation and stability of the currency have been a long-time concern for Brazil. In 1998, the Brazilian economy entered a currency and debt crisis, with large states declaring a moratorium on the service of their debts with the Federal Government. Fernando Henrique Cardoso, President of Brazil from 1995 to 2002, was forced to take on credit from the International Monetary Fund to cope with this crisis, and abandon the framework he had implemented as Minister of Finance of Brazil in 1994, the Plan Real. The Plan Real had been particularly beneficial to the agricultural sector, which had seen public financing reinvigorated after 1994, having been 'sanitised' and encouraging investment in machinery and equipment (interview CNA(a), 2014). After a crisis in the financial capacity of the sector in 1995-1996, the debts of agricultural producers were restructured and the government assigned specific resources to rural credit in order to incentivise technological

improvements in production (Sainz and Calcagno, 1999: 59).³⁷ However, the exchange rate targeting regime was changed to an inflation targeting mechanism, due to IMF conditionalities, and the currency was devalued.

After its devaluation in 1998, the BRL stayed at purchasing parity until 2001-2 when again, due to anticipatory financial movements, the currency depreciated by 15%, signalling a new currency crisis in late 2002 (de Paiva Abreu and Werneck, 2008; Grinberg and Starosta, 2014: 253).³⁸ This occurred in a context of very low commodity prices and increasing concern from business elites and international financial organisations over the rising popularity of the Workers' Party candidate, Lula da Silva, who was leading the polls for the presidential elections. These worries, however, were appeased by Lula himself who, before the elections, read to the press the 'Letter to the Brazilian people' in which he committed to maintain Cardoso's macroeconomic policies, sending a reassuring signal to the international markets (Oliveira, 2006; Maxwell, 2003). In addition, once elected, Lula went further than his predecessor by increasing the budget surplus in order to pay the increasing debt services (Grinberg and Starosta, 2014: 255; Maxwell, 2003), as well as preserving Central Bank independence, capital mobility and a flexible exchange rate, and his backing of the agro-export sector (Morais and Saad-Filho, 2011: 32). However, this orthodox macroeconomic approach resulted in a loss of support from the Workers' Party's traditional basis, such as unionised formal workers, creating a governance challenge for the Lula administration (2011).

³⁷ Not all sectors benefitted equally, however. The sectors that gained most were those oriented towards export markets, such as coffee and soybean (Sainz and Calcagno, 1999). The production of goods consumed in the domestic market, while favoured by credit conditions, suffered a drop in their prices. This resulted in agriculture gaining the moniker of the 'green anchor' of the Plan Real, as it became an important aspect of the stabilisation period and the reduction of inflation levels (Coelho, 1997).

³⁸ For a detailed account of the 1998 devaluation and following 2002 crisis, see de Paiva Abreu and Werneck, 2008.

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Overall, during his first term as president, Lula's administration increased the economy's openness to international inflows and outflows of capital, while shifting its focus from exchange rate control to inflation targeting. These measures were meant to send positive signs to financial actors by assuring the continuation of capital mobility and access to and from the global economy. Throughout 2004-2008, the Brazilian economy grew at an annual average of 7% while industrial value added grew by 5% (Grinberg and Starosta, 2014: 255). All these elements contributed to a balance of payments surplus, which reached 14 billion US dollars in 2005, such that Brazil's reserve accumulation expanded from 16% of its external debt in 2002 to 30% in 2005 (World Bank, 2017). Yet the Brazilian government seemed to struggle to balance global forces of deterritorialisation and domestic demands for macroeconomic equilibrium, requiring tighter control over the economy. On one hand, openness towards large volumes of capital flows and the increasing success from the agro-exporting sector were the results of its market-friendly policies; while on the other these dynamics started to increase the value of the domestic currency and inflation, thereby putting in danger the government's alliance with domestic capitals and regional elites, whose support depended on the performance of the economy and the existence of a dynamic domestic market (Morais and Saad-Filho, 2011: 33).

After his re-election in 2006, and under pressure from certain groups, Lula decided to shift economic policy towards a neo-developmental approach, through the appointment of heterodox economists and by enlarging the capacity and role of the National Bank of Development (BNDES). The Brazilian economy had expanded in previous years partly due to the increasing role of agricultural exports fuelled by rising international prices. In this context of agro-export boom and openness to capital flows together with high interest rates, an increasing volume of 'hot money' entered the country, mainly through the foreign exchange derivatives market (Gallagher and Prates, 2016; Grinberg and Starosta, 2014: 251). This inflow of international capital into the

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country's national accounts consequently generated an appreciation of the exchange rate and, in neo-developmental terms, entailed a decline in competitiveness of the industrial sector (Actis, 2015: 121). Again, we see how the dynamics of UD play out, as global capital mobility enabled the accumulation of financial capital in Brazil, incentivised by positive growth rates reflecting the agro-export boom, and consequently creating unevenness in the performance of the agricultural and industrial sector.

As a result of these processes, the Brazilian currency continuously appreciated until 2013, and by 2008 the degree of overvaluation reached 93% (Grinberg and Starosta, 2014: 256). This was accompanied by an increasing current account deficit, which reached over 100 billion US dollars in 2014 (World Development Indicators). The co-existence of both phenomena was possible due to the sustained inflow of foreign capitals, which exercised an upward pressure on the BRL (Deutsche Bank, 2011: 4), and the performance of the agricultural and primary sectors in export markets, particularly soy and iron ore, thanks to the high international commodity prices (Doval and Actis, 2016: 5). The currency appreciation (alongside the general expansion of Brazil's economic activity) contributed to rising state fiscal revenues through import taxes - an opposite mechanism to that experienced by Argentina, which had a devalued currency and export taxes (Grinberg and Starosta, 2014: 256). In this context, and as a reflection of the policy shift explained above, the BNDES became a key player in the pursuit of a neo-developmental agenda as one of the main providers of credit (Saad-Filho and Morais, 2011; Actis, 2015). Of the bank's total outlays between 2001 and 2009, almost 50% were oriented towards industry (Actis, 2015: 124), which suggests a transfer of resources towards this sector.

Although this movement in the exchange rate benefitted the state's coffers, the Brazilian government tried to correct this tendency by tightening regulations on cross-border financial flows, particularly on bets on the BRL and short-term positions on the foreign exchange derivatives market

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(Gallagher and Prates, 2016). A continually overvalued currency affected the competitiveness of Brazilian capitals internationally, and the government sought to bring stability to the currency exchange market. The use of exchange rate and capital controls as a mechanism for reterritorialisation and the reaffirmation of the state's control over these developments resulted from the reduced policy options available, due to the contradictory imperative of both assuring macroeconomic stability at the domestic level, while maintaining access to global financial markets.

According to Gallagher and Prates (2016), the government's willingness to impose certain restrictions on cross-border financial flows was derived from the export sector's preference for avoiding strong movements in the currency over access to global capital flows. This consideration seems to be confirmed by the preoccupation expressed by the agribusiness sector around currency fluctuations. As an interviewee from the Confederation of Agriculture and Livestock (CNA) told me:

It is necessary from the public power a guarantee of income, because there is no clear policy of income guarantee. We have some instruments, but not a policy. Any currency variation affects directly the rentability of the producer who ends up paying. (...) We are highly dependent on imports of chemical products, of inputs, such as potash (...) If the real is overvalued I might win in the first moment because my product is more competitive in the market, but in a second moment that goes against my own interest (interview CNA(a), 2014).

As opposed to the Argentine case, where soybean and agricultural exports in general have had a significant impact on the exchange rate; in Brazil it is capital inflows which seemed to play a determining role in the fluctuation of the exchange rate. This difference arises not only from the economic structures, but also due to Argentina's lack of access to international financial markets following its default in 2002.

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By 2013, the effectiveness of regulations on capital flows and foreign exchange derivatives waned, showing, according to Gallagher and Prates, an uneven result depending on the phase of the cycle they were applied to (2016: 93). In other words, regulations would have been more effective during the boom and lacked effectiveness in the bust period, when they were actually implemented. In an unregulated domestic context, capital inflows - motivated by profits in an appreciated asset, the BRL - further fuelled overvaluation. When the government decided to impose certain limitations to these movements, or reterritorialise the currency exchange market, a withdrawal of global capital flows pushed the BRL towards depreciation (Gallagher and Prates, 2016: 93). This time difference, between the implementation of regulations and the dynamic of international financial capital, showed both the effects of the mobile nature of financial capital, as it affected the Brazilian currency and with that the different productive sectors, as well as the limits of state capacity to regulate processes of UD when a certain level of economic openness is taken for granted.

Depreciation, however, was beneficial to agricultural exports, which had expanded owing to these variations (similar to Argentina). In its Agricultural Outlook report, the Federation of Industries of São Paulo (FIESP), one of the most important industrial lobbies, suggested that maintaining a devalued BRL, which would further benefit agricultural exports, could provide macroeconomic stability to the rest of the economy. As such, their argument is similar to that of Grinberg and Starosta, in that the expansion of agricultural exports is seen as a source of wealth for the rest of the economy, potentially transferring resources to the industrial sector. Brazilian industry has 'always lived under the government's protection' (interview CEBRI(a), 2014) and a transfer of income into this sector from agricultural exports could sustain such policy.

As one of the main contributors to the GDP and foreign currency reserves, the soybean complex is inextricably linked to these processes described above.

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However, this is not always a direct relation, or a simple Dutch Disease situation, where the inflow of foreign currency into the country, as a result of an increase in primary sector exports, results in an appreciation of the currency with adverse effects on manufacturing production. Expectations of increasing performance of the agro-exporting sector seemed to have played a role in the fluctuations that the BRL has experienced in the last 15 years. Even though their economic relevance has been decreasing, industrial elites remain a very powerful component of the political and economic scenario of Brazil. The use of macroeconomic policy for redistributive purposes is then limited by a number of factors including the demands from different domestic economic elites, the inflow of capitals entering the country and the institutional capacity of the Brazilian state to balance these forces while maintaining a stable exchange rate.

Inflation targeting and soybean expansion

As mentioned in the analysis of the Argentine case, inflation is a redistributive issue that has been a highly significant grievance for Latin American economies. Fluctuations in domestic currencies impact levels of inflation, either via more expensive imports, whether consumption goods or inputs for the domestic productive sector, or due to the contraction or expansion of consumption. Inflation targeting as a mechanism of the Brazilian macroeconomic policy was introduced in 1999, as a nominal anchor to replace exchange rate targeting policy. As previously mentioned, this was a result of initial currency crises that followed the implementation of the Plan Real and of the IMF's conditions. The target was determined by the National Monetary Council, which was constituted by the Central Bank of Brazil, the Ministry of Finance and the Ministry of Planning. While failing to reach the specified target, inflation in Brazil remained within the upper tolerance limits set by the Council throughout most of the 2000s, with the exception of 2003-2004 and 2015 (Banco Central do Brasil, 2016; Serrano and Summa, 2012). In their analysis, Franklin Serrano and Ricardo Summa (2012) suggest that levels of

inflation in Brazil were more responsive to cost factors than to changes in aggregate demand. These, in turn, were affected by changes in the exchange rate as well as international prices.³⁹

In the agricultural sector, exchange rate fluctuations affected production costs which were later translated into domestic prices. As mentioned above, soybean production is highly dependent on the import of agro-chemicals and macro-elements such as phosphorus and potash. For example, a study by EMBRAPA which focused on the State of Paraná, one of the largest soybean producers, found that between February 2002 and July 2011, the nominal price of fertilizers increased by 115%, 25% more than the increase in the soybean price (Hirakuri and Lazzarotto, 2011: 37). As a result, producers that are more dependent on imports and relatively less dependent on exports are hurt more by a weak Real.

Being an open economy, goods in Brazil were influenced by rising international prices, exercising an upward pressure on inflation in Brazil. Any variation in the appreciation or depreciation of the currency thus affected both Brazilian soybean producers' own production costs as well as the competitiveness of their produce abroad, consequently altering domestic prices. Unlike Argentina or Paraguay, soybean production has a strong domestic demand in Brazil, as more than half of production of soybean is processed into oil and soy meal, of which 60% and 45% respectively are consumed domestically (ABIOVE, 2017).

Finally, it is worth noting that inflation in Brazil has also been affected by the advance of soybean in other countries. Several policies implemented by the Argentine government – namely, high export taxes and export quotas,

³⁹ There was a number of monitored goods and services whose price was linked to a price index heavily influenced by the exchange rate. Additionally, as an open economy, Brazil internalised international prices in commodities, which inevitably created an upward pressure on domestic prices. For a full analysis of inflation in Brazil during the 2000s, see Arestis et al., 2011; Serrano and Summa, 2012.

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analysed in the previous chapter – incentivised the production of soybean to the detriment of others, such as wheat. This not only affected the Argentinian population, but also, in this case, that of Brazil. This is because Argentina is the main supplier of wheat to its MERCOSUR neighbour. This became a very ‘sensitive issue for Brazil’, due to the government’s struggles to maintain a controlled level of inflation while suffering a shortening of supply in one of its staple food products (interview Ministry of Development Brazil, 2014). In 2007, Argentina’s exports of wheat to Brazil constituted over 80% of the latter’s imports of that product, while in 2014 that proportion was down to 30% (INTrade BID, 2017). As a result, Brazil was forced to loosen its extra-block import taxes – a measure previously discussed with Argentina - in order to compensate the shortage in Argentinian exports (interview FIEL, 2014; interview Ministry of Development Brazil, 2014).

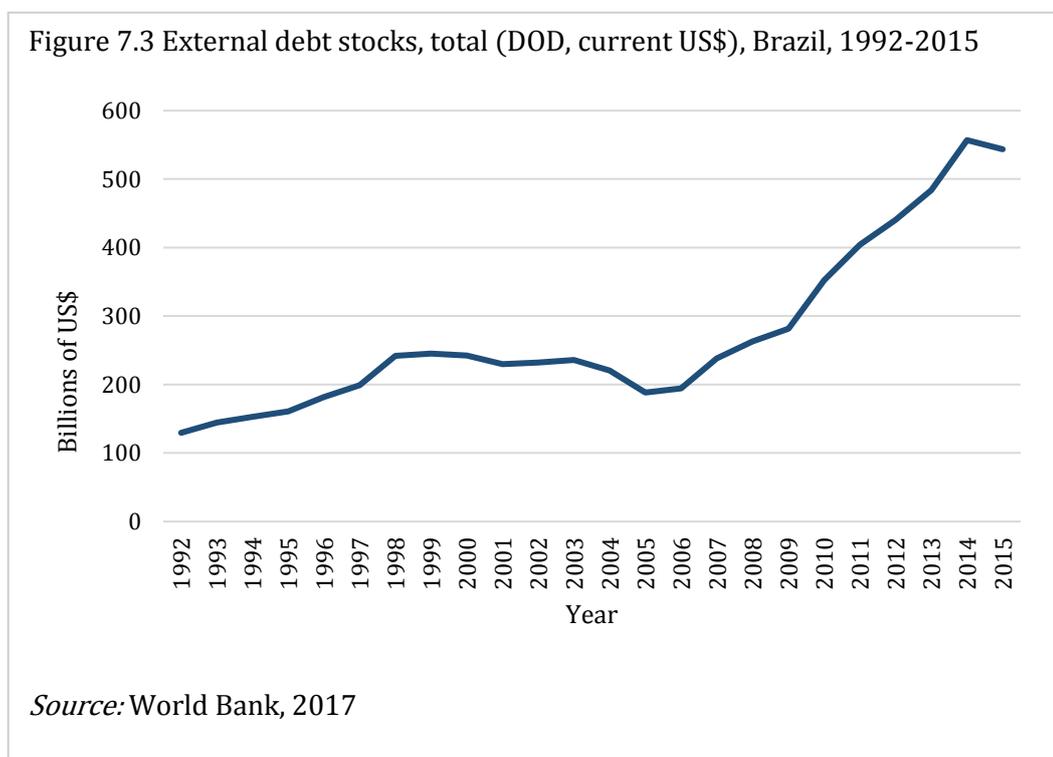
Overall, inflation was closely affected by fluctuations in the exchange rate, which in turn responded to conditions in the financial market and the behaviour of capital flows (Arestis et al., 2011: 135). Once again, the state’s capacity for regulation of UD is limited by the presence of capital mobility, which acts as a ‘veto power’ over regulatory policies implemented at the national level (Gallagher and Prates, 2016: 85).

The expansion of foreign debt and macroeconomic instability

According to calculations by government agency EMBRAPA, soybean exports play an essential role in the provision of foreign currency reserves available for the payment of debt and to balance the Brazilian public accounts. In 2010, profits from the soybean complex were equivalent to almost 85% of the national balance of payments credit. Considering its annual levels of growth, and the fact that it represents over 10% of the totality of Brazilian exports, this sector has remained essential to Brazil’s current account balance (Hirakuri and Lazzarotto, 2011: 39; ABIOVE, 2017).

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Towards the end of his first term as President, the strict deficit and inflation control implemented by Lula's administration allowed the government to repay in advance the IMF loan taken during the Cardoso presidency to help



manage the 2002 currency crisis (BBC, 2005). This was obviously taken as a positive sign of the orthodox policies that were continued from the Cardoso presidency and an evidence of the strength of the macroeconomic indicators of the country. However, the imbalances that the Brazilian economy began to suffer after 2006, as described above, with a creeping public deficit and increasing currency volatility, were also reflected in increasing public debt, as shown in Figure 7.3. During her first term as President of Brazil, Dilma's objectives of reducing country risk and inflation were not achieved, and at the beginning of her second term in 2014 there was growing discontent with the performance of the economy, added to eruption of corruption scandals (Doval and Actis, 2016).

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In their most recent Agricultural Outlook, FIESP pointed to ‘the chaos of public expenditure promoted by the government of Dilma Rousseff’ as the main driver of the ‘explosive trajectory of the public debt’ (FIESP, 2016: 14). This organization, like many other elite industrial groups, supported Dilma’s rival – right-wing candidate Aécio Neves – in the latest presidential election. There was a rising discontent due to the PT’s support for public expenditure and redistribution while foreign direct investment was falling along with GDP growth (World Bank, 2017).

The trust of the industrial elite in the government had been decreasing, and they were generally opposed to the re-election of Dilma Rousseff in 2014. The condition for the reestablishment of such confidence was - according to one interviewee from FIESP - ‘on accomplishment of the [macroeconomic] objectives of fiscal surplus, inflation, etc. From there, everything else will settle’ (interview FIESP, 2014). ‘Everything else’, in this context, suggests expanding investment in fixed capital and overall support from industrial elites, which proved to be essential in Dilma’s continuation as President of Brazil until her impeachment in September 2016.⁴⁰

Overall, the soybean complex in Brazil has grown in the last 15 years to become a key sector for the growth and macroeconomic stability of the country. As one a member of the Brazilian Agribusiness Association (ABAG) put it: ‘Soybean saves[d] Brazil’s life’ (interview ABAG, 2014). Openness to global capital flows, however, have limited the state’s ability to recur to exchange rate policy as a reterritorialisation and redistribution strategy and hence to manage dynamics of UD. The macroeconomic policies described here suggest a shift in power from industrial elites to the agribusiness sector.

⁴⁰ In September 2016, elected president Dilma Rousseff was impeached by Congress over disregard of the federal budget. Several industrial associations, including FIESP and the CNI (National Confederation of Industries) publicly supported the trial and decision to impeach President Rousseff (See Neto, Nogueira and Oliveira, 2016).

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Nevertheless, the recent events in the political scene of Brazil indicate that manufacturing remains a very powerful political and economic actor.

There seems to be a shift in power from industrial to agribusiness elites, which might be reflected in the macroeconomic policies, but as recent events on the political scene of Brazil have shown, these remain a very powerful political and economic actor.

Paraguay

Of the three cases analysed in this thesis, Paraguay is clearly the smallest economy and also the most dependent on agricultural resources and soybean in particular. This dependency is registered both in terms of exports and GDP. Soybean represents 88% of agricultural exports, which in turn accounted for almost 40% of total exports in 2011 and 2012 (Trepowski et al., 2014: 20), while the agricultural sector, mainly dominated by soybean after 2007, represented around 26% of the country's GDP in 2010 (Palau et al., 2012: 7). Moreover, GDP growth rates follow almost exactly the performance of the export sector, further emphasising the clear link between the two. As such, Paraguay is not only dependent on soybean, but also dependent on the external market – it is an agro-exporting economy.

Exchange rate and fiscal responsibility

Similar to its larger neighbours, Paraguay suffered a profound economic crisis at the end of the 1990s, with negative GDP figures between 1998 and 2002 (World Bank, 2017). In the following decade, the country's growth regained a positive track and gradually stabilised its macroeconomic indicators (Trepowski et al., 2014). In fact, the country's macroeconomic performance has been praised by international organisations. In a visit to the country in 2015, IMF Deputy Managing Director, Mitsuhiro Furusawa, declared:

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Paraguay's robust performance is underpinned by sound macroeconomic fundamentals. Public debt is moderate, inflation is low, the external current account is close to balance, and official reserve holdings are ample. These sound fundamentals are the bedrock of macroeconomic stability in a volatile environment. They ensure that Paraguay has buffers to absorb adverse shocks and provide confidence to households, entrepreneurs, and financial investors (IMF, 2015).

Likewise, business associations linked to the agribusiness sector have expressed their satisfaction with the macroeconomic stability offered in the country and how this has created a welcoming environment for foreign investment. A member of the Paraguayan Chamber of Oilseed and Cereal Processors highlighted the 'macroeconomic ordering' achieved in the last decade, as well as the efforts by the previous government in their first days in office to assure fiscal responsibility and the sound conduct of monetary policy (interview CAPPRO, 2014). Similarly, an interviewee from the Chamber of Oilseed Exporters said: 'What Paraguay has is a very important macroeconomic stability. Even if we also had a Bolivarian government, we knew how to fix our problem and adjust our errors in the precise moment' (interview CAPECO, 2014). The mention of the 'Bolivarian government' refers to the presidency of Fernando Lugo, which was discussed in the previous chapter, as it was cut short by an impeachment trial in 2012. While Lugo attempted to implement some redistributive policies, he did not compromise the overall basis of the Paraguayan economy. However, the use of such terminology suggests that it was perceived in the agribusiness elite as a threat to macroeconomic stability, the openness of the Paraguayan economy, and the conditions of growth and expansion of the oilseed export sector.

The key instruments in the achievement of this macroeconomic stability have been the Fiscal Responsibility Law and inflation targeting. The Fiscal Responsibility Law was approved by Congress in the first days of President

Cartes government, in October 2013, a project strongly supported by the President himself (ABC Color, 2013a; 2013b). The aim of this legislation was to 'assure the sustainability of public finances in the mid-term, (...) preserving the equilibrium between income and public expenditure' (Poder Legislativo del Paraguay, 2013). This meant a legal constraint on the government's ability to increase public expenditure, as it established that budget deficits could not exceed 1% of the annual GDP. The only caveat to this regulation would be cases of 'national emergency, international crisis that could seriously affect the national economy or a drop in the internal economic activity' at which point the limit could be increased to 3% of GDP (2013).

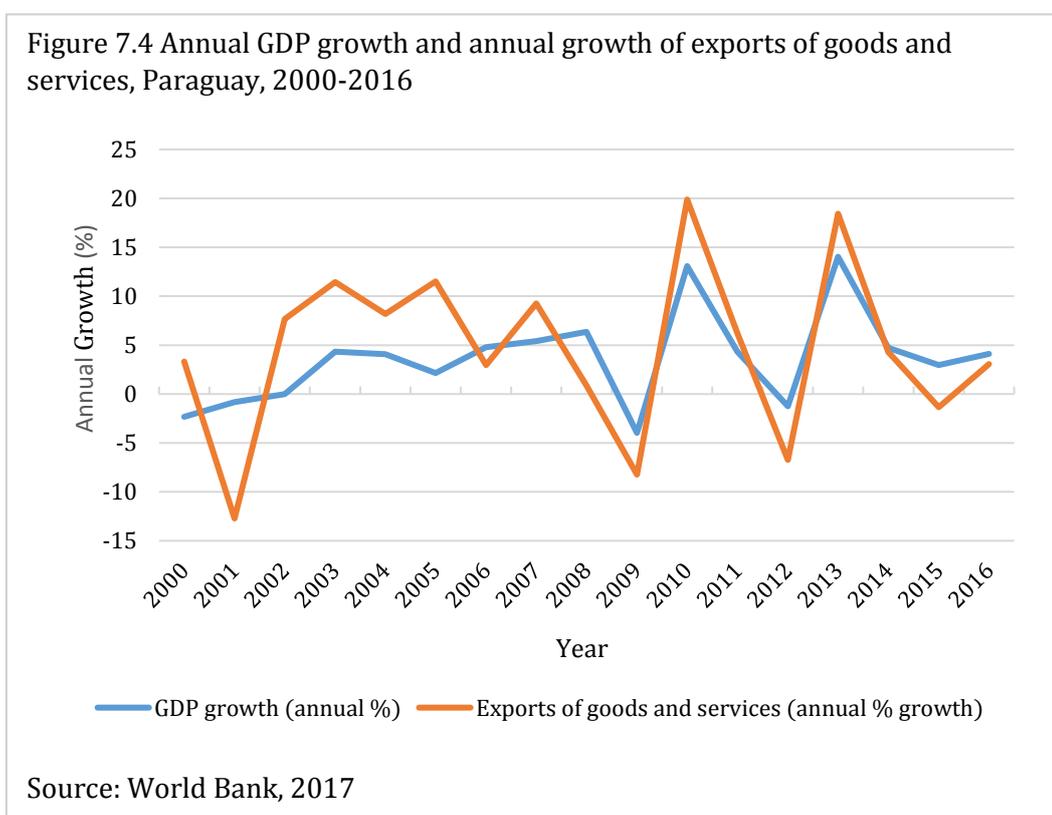
This legislation, while praised by international organisations and domestic business associations, placed a very strict constraint on the state's capacity to foster development of public infrastructure, provision of public services, etc. That is, it represented a very clear preference for the provision of a stable and reliable macroeconomic environment to attract foreign investments over the capacity for the state to play an active role in the improvement of socio-economic conditions of its population. Opposition groups, especially the leftist Frente Guasu, criticised the legislation for being 'a penalty' on poorer sections of the population (ABC, 2013a). In addition to its social implications, from a more orthodox point of view, this fiscal limitation also affected the state's capacity for public investment to increase private capital's rate of return, and hence, Paraguay's attractiveness to FDI (Fernandez Valdovinos and Monge Naranjo, 2004: 43).

This stability, however, emerged mostly after 2013, with the passing of the Law and the implementation of Inflation Targeting in 2011. In previous years, the Paraguayan economy showed signs of volatility, with a current account deficit of 2% of GDP in 2012 after five years of surplus, though with large variations throughout those years; GDP growth experienced quite stark variations particularly from 2008 onwards; and finally, there was an increasing appreciation in real terms of the Guaraní, the Paraguayan currency,

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from 2005 onwards (World Bank, 2017). While identifying the sources of that instability goes beyond the scope of this thesis, two points can be made that would suggest the nature of this volatility. On the one hand, a closer look at Paraguay's balance of payments indicates that investment income has been consistently negative, suggesting that FDI and other investments have been steadily leaving the country, hence contributing to the debit in the national account. On the other hand, trade of goods has been in surplus, even superior to the capital account, thus reinforcing the suggestion that exports – and particularly soybean – play a significant role in the current economic stability and growth of Paraguay (Banco Central Del Paraguay, 2017).

This link between soybean and natural resources exports in general becomes clear when comparing the performance of exports and that of the GDP from 2000 onwards, as it shows in Figure 7.4. The growth of the Paraguayan economy is very dependent on the agricultural sector: 'in good years for agriculture, [the economy] grows, (...) in bad years it goes down' (interview



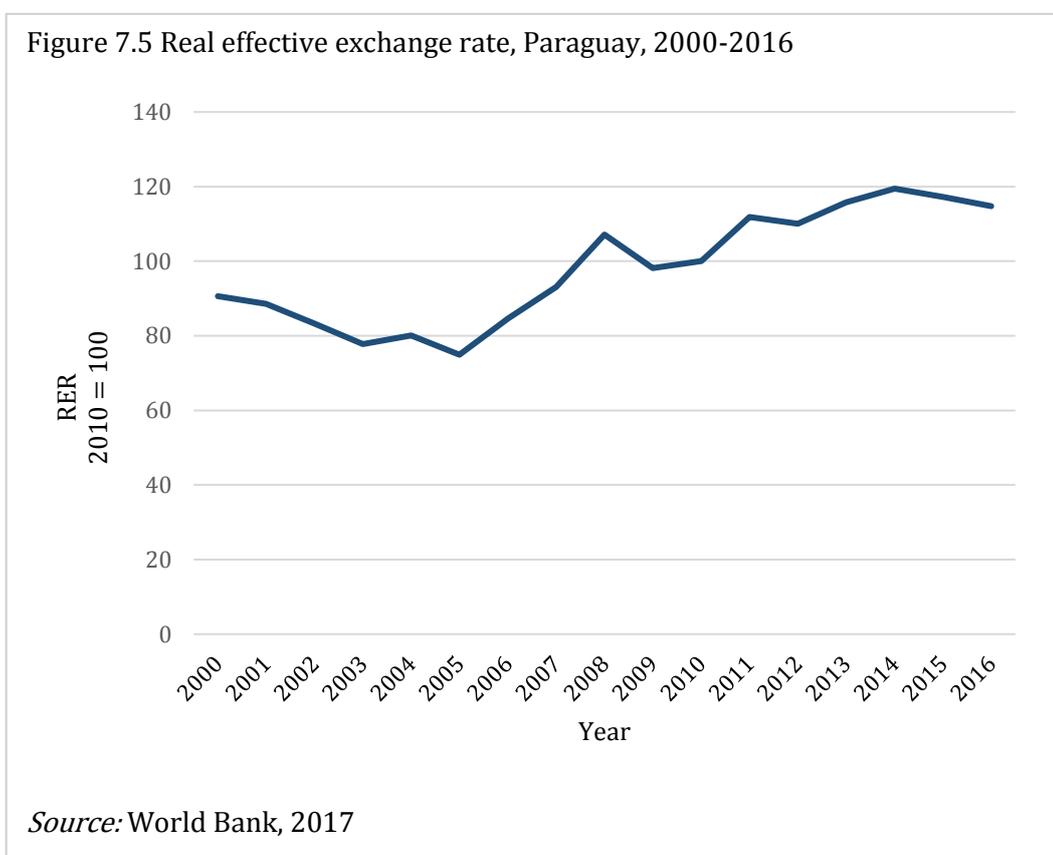
CAPECO, 2014). In 2011, for example, the Paraguayan economy grew by 4%, driven mainly by services and the primary sector, each representing 65% and 25% of that growth (Banco Central Del Paraguay, 2011: 22).

A question emerging from this correlation between natural resources exports and GDP growth is whether Paraguay has been affected by the Dutch Disease, and how has the state attempted to govern this phenomenon. This aforementioned correlation implies that there is a large inflow of foreign currency entering the country as a result of natural resources exports. In the first six months of 2011, Paraguay exported soybean grain with a value of US\$ 1.2 billion, making it the main source of foreign currency for Paraguay (Banco Central Del Paraguay, 2011: 25). Soybean remained the principal provider of US dollars throughout the analysed period, along with an increasing participation of energy exports from the two hydro-electric dams, Itaipú and Yaciretá (Banco Central Del Paraguay, 2011). This high dependence on exports from natural resources would result, according to the Dutch Disease thesis, in an overvaluation of the local currency and a negative impact on other export sectors.

Indeed, from 2008 onwards, there was an increased appreciation of the domestic currency (Figure 7.5). Adding to this argument, a study by the Centre of Analysis and Diffusion of the Paraguayan Economy showed a high correlation between terms of trade and the Guaraní as, according to the author's calculations, an increase by 10% in the terms of trade corresponds to an appreciation of the Paraguayan currency by 6.7% (Arias, 2013: 13). Additionally, Arias (2013) explores others symptoms of Dutch Disease, namely, the de-industrialisation of Paraguay's already historically small domestic industry and a consequent expansion of the services sector.

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The volatility described before led the Central Bank to intervene in the foreign currency market in 2013 as a way to govern the increasing volatility in the nominal exchange rate (Banco Central Del Paraguay, 2013: 48). While in the cases of Argentina and Brazil we saw an attempt to transfer resources from agriculture to industrial sector – or, as Grinberg and Starosta call it, an appropriation of the ground rent - in Paraguay the industrial sector is clearly in decline. This was also expressed in the struggle over the tax structure developed in the previous chapter, as industrial business associations for the processing of oilseeds highlighted the extremely high profit rates of the soybean production and demanding some balance in the tax pressure. In this sense, it can be suggested that a reason that the appreciation of the exchange rate does not become an important point of contention in Paraguay is due to the lack of a consolidated industrial sector. This removes the need to transfer



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resources from the agricultural sector to industrial development, since there is no significant industry to protect.

Finally, while overall inflation has had a downward trend since 2003, there has still been quite a significant inter-annual variation in price levels. Most of the Central Bank reports point to the prices of agricultural commodities as one of the main reasons behind these variations (Banco Central Del Paraguay, 2011; 2013; 2014). Notwithstanding, in 2011, the government incorporated the Inflation Targeting mechanism as a tool to limit price variations and also to send a sign to external markets in terms of tackling macroeconomic instability. Setting an inflation target not only acts as a tool for keeping consumer prices under a certain level, but it also serves as a more flexible mechanism for the control of the exchange rate than having a pegged or fixed currency.

Overall, while there is a clear correlation between the volatility of the Paraguay economy and the high dependency on natural resources, and particularly soybean – a commodity that has experienced significant price volatility in the last 15 years – economic actors in the country seem to connect this instability to another factor: the weather. As one interviewee pointed:

What does affect us, and it is a factor that unfortunately we cannot control, is the climate issue (...) What are we doing about it? Research, not only in biotechnology but all kind of technology available worldwide at the moment (...) But the weather is main factor that still weakens the Paraguayan economy (interview CAPECO, 2014).

As such, there is a failure to see dependency on agriculture, and the volatility that has recently characterised the global market of these commodities, as the main source of limitation of the economy. This is an expression of what Smith calls the 'ideology of nature', by which people enmeshed in capitalist relations often conceive of nature as external, autonomous, and independent of society,

as well as universal (Smith, 2010: 11). By determining the failure as being 'weather-dependent', there is no questioning of the current structure of the economy and the possible consequences of the 'bust' phase of the economic cycle, leaving capital flows to determine the geographic, social, and economic patterns that will characterise the country. The configurations of UD that are already being played out in the country can be further enhanced by this decision of the state to limit its own capacity for its governance.

In this sense, Paraguay's approach to redistribution through macroeconomic policy is consistent with that presented in the previous chapter. The primary sector, dominated by soybean production, imposes itself as the main beneficiary of the capital accumulation process that emerged with the latest commodity boom and of the self-imposed role of the state as a facilitator of the inflow of foreign capital. Through the maintenance of a floating exchange rate and the imposition of very restrictive fiscal responsibility regulation, the Paraguayan state hence sets itself limitations on its own capacity for redistribution, either across productive sectors or from one section of the population to another.

Conclusion

This chapter analysed the different macroeconomic policies that were designed by Argentina, Brazil, and Paraguay in relation to the availability of foreign currency that resulted from the boom in soybean exports. Different to the design of tax structures, macroeconomic instruments were also affected by the expansion of liquidity in US dollars, and this chapter has shown the impact of the soybean boom on indicators affecting the national economies involved. However, the existence of variation among the different economies shows that the Dutch Disease is not inevitable, but rather that the states have different strategies at hand to address the imbalances that arise from the large in-flows of capital.

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In Argentina, the devaluation that followed the 2001 crisis and the consequent increase in price competitiveness of the agro-industrial sector was very significant in the recovery of the economy. The Kirchner governments eventually developed a strategy of Competitive Exchange Rate that would ensure a considerable in-flow of foreign currency – essential for a country that was isolated from international financial markets – while not damaging domestic industry excessively. This occurred in a political context in which the government directly intervened with the official statistical agency, resulting in the improper measurement of inflation. Inflation increased considerably during those years, cancelling out the efforts towards redistribution that could have been achieved through taxation.

The Brazilian government's capacity to influence macroeconomic indicators was far more limited, as a result of pressure from both international institutions and domestic elites. By setting inflation targets and modifying regulations on capital controls, the BRL was subject to several pressures. Both industrial and agricultural elites were keen on maintaining a stable currency but this proved difficult in the last decade. Similarly, inflation targets were always in the upper margins set by the Council during the successive governments of Lula da Silva and Dilma Rousseff, leading to increasing pressure from domestic elites to reduce inflation by tightening the budget and returning to more orthodox macroeconomic policies.

Finally, in Paraguay, the lack of state intervention and the imposition of macroeconomic targets further reinforced the inequalities and structures of UD that have been heightened by the advancement of soybean. In this sense, the Paraguayan macroeconomic approach is consistent with its fiscal strategy of benefitting the dominant soybean sector and limiting its own capacity for redistribution in one of the most unequal countries on the continent.

This chapter has demonstrated how, first, the countries studied have developed different strategies to govern the uneven dynamics created by new

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processes of capital accumulation linked to the soybean complex, and second, how these strategies have been defined by the diverse limitations each state faced. In the case of Argentina, the state's capacity to govern the impact of soybean's expansion was limited by the contradiction between keeping inflation at bay and stimulating the industrial sector, on the one hand, and the need to maintain a competitive exchange rate that sustained soybean exports and fiscal income, on the other. For Brazil, the economy's exposure to global capital flows restricted the state's capacity to reterritorialise the capital accumulated through the soybean complex, even if the inflow of currency stimulated by this sector contributed to the payment of foreign debt. Finally, in Paraguay, the depoliticisation of macroeconomic policies through a self-imposed fiscal responsibility legislation limited the capacity of the state and hence reduced its participation in the enhancement of soybean's capital accumulation process and the dynamics of uneven development that emerge as a result. Continuing the analysis developed in the previous chapter, the study of the macroeconomic policies in these countries demonstrates how the state in Argentina, Brazil, and Paraguay reaffirmed its authority over the dynamics of uneven development that emerge from the mobility and fixity of capital in the soybean complex in a variety of ways.

The analysis presented here suggests the existence of different varieties of resource governance through politics of currency. The cases demonstrate not only the different policies implemented, but also different levels of state's capacity in governing these dynamics. Part of this capacity is linked to the exposure of national economies to international financial capitals and IOs. Moreover, the different strategies deployed to govern the patterns of UD created by the soybean boom were not always directed at limiting these effects, but also to enhance differentiation and equalisation in order to achieve government objectives.

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In 2015 and 2016, a wave of floods affected several regions of Argentina, mainly in Cordoba, one of the provinces that constitutes the *pampas*. The area was declared a 'zone of emergency or disaster' in 2016 (Agrovoy, 2016). Not only were these events calamitous for the affected farms, but several rural populations were also seriously impacted, as people had to be evacuated due to towns 'sinking' under the pressure of rising water levels (La Voz, 2016). This unsurprisingly resulted in severe economic losses, equivalent to 4% of the region's Gross Geographic Product, or around US\$ 777 million (Telam, 2016).⁴¹ These floods, it has been suggested, have been exacerbated by years of soybean monocropping, which has reduced the soil's capacity to absorb water (Pagina 12, 2016). The following year, the Financial Times declared soybean to be 'the crop of the century' (Meyer et al., 2017). The oilseed's protein content, its malleability for use in industrial goods, and the sustained demand from China have propelled soybean production worldwide, with the US, Brazil, Argentina, and Paraguay leading this supply. The article highlights how this demand, which is likely to increase in the future, has promoted the expansion of production and the emergence of an 'international conveyor's belt' of soybean (ibid).

These two phenomena – the creation of vast monetary wealth and profound transformations in geography – cannot be theoretically separated or compartmentalised, but must rather be understood as equally constitutive of the spatial political economy of commodity booms. Floods in the Argentine pampas and million-dollar investments in China are connected by the development of this global agro-industrial complex. This thesis has consistently emphasised that these ostensibly unrelated processes should be

⁴¹ The Gross Geographic Product is the equivalent of the Gross Domestic Product (GDP) applied to the subnational states in Argentina.

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conceptualised as different sides of the same patterns of UD; they are simultaneously part of the geography of the soybean complex.

The effects and consequences of the expansion of this complex are multi-dimensional and multi-scalar. The growth of soybean production interweaves processes of political economy at a range of scales, from the everyday to the long cycles of macroeconomic regimes (Blyth and Matthijs, 2017). Underpinning these environmental, social, political, and economic dimensions is the process of capital accumulation and the (re)production of nature and space. This thesis has provided insight into these processes by examining the soybean complex in South America and the mechanisms for the creation and distribution of wealth in Argentina, Brazil, and Paraguay.

This concluding chapter presents a summary of the main findings of this thesis, namely on the spatio-temporal structure of the soybean complex, and the varieties of governance identified in Argentina, Brazil, and Paraguay, the original contributions, and finally the limits and prospects for future research that are implicit in this work.

The governance of soybean's expansion in South America

This thesis set out to unpack the key mechanisms in the expansion of profit created in the context of a commodity boom and the strategies developed to govern it. It first addressed the shortcomings of literature on Latin America that examined the role of commodity cycles in the region's development. As a response to these limitations, this thesis proposed a spatial approach based on Neil Smith's theory of UD, with consideration of questions of scale and strategies of *de- and reterritorialisation*, to study the case of the soybean complex in South America. The empirical analysis developed here first explored the politics of capital fixity and mobility, that is, how the development of fixed capital or infrastructure (Chapter 4) and the increased mobility of capital, through financialisation (Chapter 5), have enhanced the profitability of the soybean complex and created patterns of UD in the process. This section

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of the thesis aimed at understanding the way spatial configurations are both determined by and determine the political economy of soybean, and to delineate some of the features of the spatio-temporal structure of the soybean complex. The second part of the thesis focused on the Argentine, Brazilian, and Paraguayan states' capacities to govern and distribute the wealth created through the soybean sector. To do so, Chapters 6 and 7 focused on policies of taxation and exchange rate policies respectively, in order to analyse the extent to which the countries involved had been able – and willing – to use these mechanisms to govern the soybean complex.

Soybean spatio-temporal structure

This thesis proposed a theoretical approach that highlighted the spatial nature of processes of political economy, as developed in Chapter 3. One of the central underpinning propositions of this project has been the conceptualisation of space as relational. This means that space is not simply a container where economic, political, and social relations take place, but rather 'an embodiment and a medium of social life itself' (Soja, 1989: 120). Space is constructed and at the same time constructs social interactions. In the context of the capitalist system, this is reflected in the emergence of specific geographies of capitalism, determined by the dominant processes of accumulation. With this conceptual framework in mind, the expansion and consolidation of the soybean complex in South America in the context of a commodity boom was studied as a spatio-temporal matrix, a construction of social spaces where accumulation takes place (Jessop, 2000).

This spatial configuration emerged as a result of capital's dual need for fixity and mobility. For the creation of wealth, capital requires the existence of built structures – such as factories, roads, etc. – as well as the capacity to move quickly to another area or sector when profit rates fall. The duality gives rise to a process that Smith calls the *seesaw movement of capital*. There is a moment of growth, of the inflow of capital, followed by one of devaluation, as

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capitals move to other sectors and regions. The soybean complex and its continuous expansion, even when international prices have been dropping, indicates that we are still observing the first phase of this process. However, patterns of UD created by dynamics associated with the complex have emerged at different scales. As such, this thesis analysed the process through which the built environment was expanded, enhanced by capital mobility, and investment was drawn into the sector, enlarging both profits and imbalances.

In Chapter 4, this thesis analysed the built environment that is key in the configuration of the soybean complex. In particular, three cases of infrastructure development were examined: the Gran Rosario commodity hub, in Argentina; the highway BR-163, connecting the South and North-West of Brazil; and the barge fleet of Paraguay and the Paraguay-Paraná waterway.

The 'commodity hub' established in the area of Gran Rosario, Argentina, is the centre for the processing, logistics coordination, and transport of around 80% of Argentine soybean production. One of the most efficient agricultural hubs in the world, this complex system of ports, industrial installations, roads, and storage facilities is an 80km zone for the concentration and centralisation of agribusiness capital and a key logistical centre for the functioning of the regional soybean complex. Second, this chapter explored the implications of the re-pavement of the BR-163 road, a soybean corridor in the centre of Brazil. This highway connects the largest soy-producing state in Brazil, Mato Grosso, with Santarem, a port on the shores of the Amazon River where transnational agricultural trader Cargill owns a terminal to transport the commodity through the river to international ports in Northern Brazil. This project has, on one hand, facilitated and reduced the cost of transporting soybean from the South and Centre of Brazil to international markets; and, on the other, it has created the conditions for the further expansion of the soybean planted surface – and likely propelled further deforestation. Third, the chapter explored how the Paraguay-Paraná waterway has been transformed into a channel for regional trade in which soybean plays a significant role. It is for the

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purpose of transporting this specific commodity that Paraguay has developed the third largest barge fleet in the world.

These three examples demonstrate the different ways in which physical infrastructure has transformed the existing geography and created a spatial architecture specific to soybean. Infrastructure has done so in three ways. First, infrastructure has created new scales, by transforming local dynamics into spaces for global processes; or by altering the hierarchy of scales, for example by bringing regions to the forefront of economic power, as in the case of Mato Grosso in Brazil. Second, infrastructure has created new spaces for economic expansion, either through making new areas available for production or by increasing the capacity to transport and process larger volumes. Third, the emergence of these infrastructures and the dynamics of capital accumulation they entail have affected other areas of social interaction. Socio-economically, some of these zones have created new conditions of marginalisation and criminality, as in the case of Rosario. Environmentally, they have affected the relationship between society and nature by transforming and *producing* nature (Smith, 2010), observable through the deforestation of the Brazilian *cerrado* and the dredging of the rivers in the La Plata basin.

While an analysis of the construction of logistical hubs, highways, and waterways provides insight into the ways in which the fixed capacity of capital is realised, Chapter 5 studies the manner in which financial capital has pervaded agro-industry and hence heightened the profitability of the sector by infusing it with mobile capital. This chapter identified how derivatives markets based on soybean have expanded rapidly, both globally and regionally. It also highlighted the emergence of smaller markets based in South America, vying to enhance the region's capacity to set the international price of agricultural commodities, in a way that reflects their participation in the real economy. On the other hand, the increasing participation of global financial firms in the provision of liquidity for production increases the vulnerability of the sector,

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by promoting the pursuit of short-term profits and threatening to shift to other sectors in following productive cycles.

Similar to the effects of fixed capital, the increasing presence of mobile capital has re-scaled soybean trade and production through different mechanisms. For example, through the mobility of soybean-based derivatives – such as the ‘South American soybean’ contract sold on the CBOT – the oilseed becomes an asset that is rarely materialised through the purchase of the actual crop, but is rather used to realise quick profits at global scales of accumulation. Through the penetration of global financial capital directly into production, evidenced by international hedge funds’ investment in planting pools in Argentina, farmers in South America are exposed to the volatility of global financial markets and become vulnerable to the seesaw movement of capital, as investments can quickly retreat and relocate to more profitable areas. Overall, the increasing presence of financial capital has boosted both processes of *detritorialisation*, as capital can quickly move from one sector to another, and *reterritorialisation*, as financial capital has incentivised the concentration and centralisation of capital in large-scale farms.

In sum, the infrastructure projects and mechanisms for the financialisation of agriculture described above explain how the geography of soybean in South America both expresses the profitability of this commodity in the context of a global boom, and acts as a condition for the further expansion of this productive complex. By looking both at the construction of the built environment and the consolidation of capital mobility through the increasing presence of financial capital, this thesis was able to map the extension of the spatio-temporal matrix of the soybean complex in South America. In this sense, this thesis unpacked the *spatial dynamics involved in the creation of wealth during commodity booms*. Firstly, by identifying the mechanisms for the physical expansion of the soybean space, this thesis examined how enormous fixed investment in and physical transformation of the landscape has allowed for the integration of local, national, regional, and global scales of capital

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accumulation. Secondly, the increasing mobility of capital – achieved through the increasing financialisation of trade and production – has allowed the rapid injection of liquidity into the sector, incentivising enlargement of production and faster turn-around times. Furthermore, financialisation has connected the economic activities involved in the production and trade of soybean at different scales, for example, futures based on soybean produced in South America are sold in the Chicago Board of Trade, or banks in Europe have direct investments on production of the oilseed in Argentina, thus integrating scales. Taken together, the creation of these mammoth built environments and intangible financial instruments – representative of the fixity and mobility of capital – have transformed the soybean complex into a truly multi-scalar phenomenon, in which capital accumulation is reliant on processes at a range of spatial scales and geographical locations.

These spatial transformations, and the accompanying social, economic, and political relations embedded in that space, are the result of what Smith (2010) dubbed the ‘seesaw movement of capital’. This is understood as the impact that capital’s contradictory tendencies of equalisation and differentiation create in space. This seesaw movement can be better conceptualised as processes of *reterritorialisation* and *detrterritorialisation* (Brenner, 1998a), understood as strategies for grounding or diffusing authority, which is linked to the establishment of fixed capital or the heightening of capital mobility. As such, capital’s search for profitability creates the conditions for the emergence of particular spatial configurations, that is, *geographies for production of wealth beyond the national economic space*. In this case, we see across the borders of Argentina, Brazil, and Paraguay – and increasingly neighbouring countries, such as Uruguay and Bolivia – the expansion and consolidation of a specific geography of the soybean boom.

The following part of the thesis, which will be summarised next, demonstrates the emergence of *varieties of resource governance* that have emerged in the context of the commodity boom.

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Varieties of resource governance: Argentina, Brazil, and Paraguay

The second section of the thesis presented a country-based analysis of two policies which influence how – and to what extent - wealth created through the spatial political economy of soybean was distributed. Chapters 6 and 7 analysed the politics of taxation and the politics of exchange rates, respectively, to demonstrate different state capacities in the governance of commodity booms. As a result, we can identify three varieties of resource governance in the cases studied.

In Argentina, the expansion of soybean and the attempts by the government to manage its development have resulted in very public struggles between different sectors. The conflict between the Argentine government led by Cristina Fernandez de Kirchner and agricultural producers – which reached its climax in July 2008 – very clearly demonstrates the power struggles that emerge as the result of the availability of vast resources. In terms of tax policies, Argentina is the only country of the three analysed here that has implemented export taxes on several commodities, the highest of which was placed upon soybean. This is due in part to the social contract which the government had built its support upon, which was based on the provision of social welfare programmes and large subsidies. In this context, soybean emerged as the most important source of fiscal resources for the state, which eventually led to an intense conflict between the productive sector and the government over the rates of export taxes.

Argentina's macroeconomic strategy was largely marked by the same dynamic, namely the need for the Argentine government to control inflation and promote the industrial sector, while maintaining the competitiveness of exports so as to sustain high social spending. The contradictory objectives of, on one hand, maintaining a competitive currency that would maintain revenue from soybean exports, and, on the other hand, controlling inflation for electoral purposes, were reflected in the government's limited capacity to

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meet either objective. Both in terms of fiscal and macroeconomic policy, the strategies put forward by the Argentine government did not always have the expected effects. While the objectives might have been considered as to ameliorate the impact of UD, to some extent these policies heightened this process. In order to increase the state's capacity to collect revenues, and hence expand social expenditure, these policies also exacerbated the processes of equalisation and differentiation created by the soybean complex.

Brazil constitutes a very complex case, due to the nature of its economic, political, and bureaucratic structures. In order to conceptualise the attempts by the highly federal Brazilian state to govern and redistribute the profits created through soybean, it is crucial to understand the limited capacity of the federal government to impose its authority upon sub-national states. In this case, soybean has effectively shifted the balance of domestic power in Brazil. States in the Centre-West of the country have emerged on the national political scene and consequently become immersed in struggles with traditionally dominant regions such as São Paulo. In terms of taxation, the federal state had limited capacity for enacting a tax on soybean at the national level. This was due to two factors: first, the capacity for subnational states to impose their own tax systems; and second, the Kandir Law, passed in 1996, eliminated all taxes on grain exports. Hence, the Brazilian state's capacity for redistribution was limited by domestic conditions, namely its federalist structure, and the elites' influence over trade legislation. In the case of macroeconomic policy, the state was similarly limited in enacting a framework that might benefit redistribution. Throughout the two terms of President Lula da Silva and the presidency of Dilma Rousseff, Brazil developed a hybrid strategy that Esteban Actis termed 'heterodox neo-developmentalism' (2011) or 'liberal neo-developmentalism' by Cornel Ban (2013). Elites played an important role in the design of the macroeconomic framework, but also external forces, namely foreign capital, acted as a deterrent for a more interventionist state attempting to govern the effects of UD. Overall, Brazilian governance of the soybean

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complex reflects some of the tensions between developmental efforts, globalisation, and conflicting interests among domestic elites, creating patterns of UD across scales.

Finally, Paraguay's approach to governing the soybean commodity boom has been to limit all attempts to manage or intervene in the capitalist process of accumulation. As Chapter 6 describes, the only attempt to govern the patterns of UD emerging from the advancement of soybean was pursued by President Fernando Lugo. During his presidency, the former bishop showed some efforts to address issues of environmental protection and land redistribution for peasants. However, his rapid impeachment showed the significance of domestic elites in rejecting all attempts to pursue any kind of redistribution. Both the tax structure and the macroeconomic framework reflected a state that responds to business demands and a soybean sector largely dominated by Brazilian interests. While soybean has become one of the most important economic sectors in Paraguay, a country largely dependent on exports of this commodity, there has been very little 'spillover effect' for the large majority of the population. The expansion of this economic activity has greatly contributed to the increasing inequality that exists in this country. In this case, the effects of UD and the seesaw movement of capital are evidenced in Paraguay's socio-economic, geographic, and environmental configuration. The commodity boom in Paraguay has simultaneously created incredible growth while also enhancing inequality, showcasing the limits to state's capacity in governing these processes.

By analysing the fiscal and macroeconomic policies implemented in three countries where the soybean productive complex has extended the furthest, this thesis offered an insight into *how – and to what extent – national states design policies to effectively distribute wealth created through economic booms*. The analysis of these strategies showed the different approaches pursued by states in their efforts to govern the processes of UD. Tax structures – or lack thereof – can act as a mechanism to transfer resources from the sector

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at the centre of the commodity boom to other sectors, or, they can further deepen the asymmetries created by the dynamics of capital. Similarly, exchange rate policies can either ameliorate or deepen the imbalances created by the large amount of foreign currency entering these economies through the export of soybean in a commodity boom context. The analysis of these policies provided an insight into state's capacity for rebalancing the distribution of wealth.

Overall, this thesis presented an analysis of how the development of built capital –through the construction of physical infrastructure – and its mobility – through the increasing financialisation of agribusiness – have created a specific spatial configuration of the soybean boom in South America, and facilitated the creation and expansion of wealth in this region. Moreover, this thesis has studied the ways in which states, by facilitating the *detritorialisation* and *reterritorialisation* of capital, have attempted to govern this sector and the tremendous wealth created through it. This was achieved both by enhancing capital's capacity for fixity and mobility, and by developing policy strategies that ameliorated or deepened (or both simultaneously) the emerging patterns of UD.

Original contributions

The in-depth analysis of the creation and distribution of wealth from the soybean boom in South America developed in this thesis has provided a number of contributions to the fields of Latin American Studies and the IPE of Development.

With a few exceptions (Turzi, 2011; Oliveira and Hecht, 2016; Wesz Jr., 2016; Craviotti, 2016), most academic and policy analyses of the expansion of soybean production in South America have focused on a single country. Whether exploring the emergence of social movements (Garcia Lopez and Arizpe, 2010; Lapegna, 2016; Leguizamon, 2016), production and farming dynamics (Teubal et al., 2005; Mier and Gimenez Cacho, 2016; Vennet et al.,

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2016), or environmental issues (Fearnside, 2001; Greenpeace, 2006), many analyses of this phenomenon have compartmentalised the social, environmental, and economic dynamics within the territorial borders of the nation-state. This thesis contributes to this literature by offering an analysis that examines the multi-scalar dynamics at play. By exploring the different dimensions of infrastructure development and capital mobility across the region, and by providing cross-country analysis, this thesis provides a more comprehensive account of the soybean complex and in this sense a deeper insight into the processes underpinning more specific issues, such as loss of bio-diversity in the Brazilian *cerrado*, land-conflicts in Paraguay, or the social consequences of pesticide use in Argentina.

Moreover, the study of policies at the national level complements the analysis of the soybean complex and provides a unique comparative analysis of the impact of the different governance strategies over soybean production. Such an analysis is crucial for exploring the ways in which the expansion of circuits of capital accumulation during commodity booms impacts upon the affected countries; as well as the different impacts these processes have on state capacities. This is of particular relevance to the field of Latin American Studies, as it addresses the transformations of the state in the region – expressed in analyses of the ‘pink-tide’, the ‘post-neoliberal state’ or the ‘neo-extractivist model’ - and the role of the recent commodity boom in these transformations.

This thesis’ main contribution, however, is to the IPE of development. The concept of *uneven development* addresses the imbalances that capitalism engenders in both physical and economic geographies, which is of crucial importance for any study of development, understood in a broad sense as the accomplishment of certain improvements in standards of living. The concepts developed by Smith thus connect the spatial processes of capital accumulation with debates on development. Furthermore, this framework highlights the fact that the socio-spatial transformations created by capital accumulation cannot

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be limited to an analysis of national levels of economic performance. The multi-scalar nature of these dynamics suggests that the study of development should also focus on processes and groups that are 'linked by particular sets of material and social circumstances that cut across territorial boundaries' (Payne and Phillips, 2010: 180). Patterns of UD do not know political borders, but rather emerge within and across the limits of the nation-state, and at a multiplicity of scales.

While highlighting the multi-scalar nature of processes in political economy, this thesis also draws connections between long-term cycles in the global political economy, such as commodity supercycles, and the transformations these processes provoke in affected states. In this sense, this research has focused on the 'macro-foundations' of the global political economy, which allows for a conceptualisation of the manner in which seemingly discrete economic and political events are connected 'across time and space' (Blyth and Matthijs, 2017: 205). By analysing the expansion of the soybean complex in South America, this thesis addressed the 'structural changes in production, trade and the global distribution of wealth and power' enmeshed in the latest commodity boom, which has been largely ignored by IPE (Margulis, 2017: 11).

By situating this study of Argentina, Brazil, and Paraguay within the field of IPE, this thesis avoids the division of social science disciplines according to geographical boundaries. Instead, this research emphasises the empirical and theoretical richness of this case for issues at the core of IPE, such as questions of commodity booms, asset bubbles, the governance of natural resources, and the embeddedness of state/market relations. By doing so, this thesis breaks with the identification of the study of countries and regions outside Western advanced economies with 'development studies', and accentuates the need for a 'globalised conception of development' (Payne and Phillips, 2010: 181), and a globalised understanding of IPE.

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More specifically, this thesis has also contributed to the theory of UD by incorporating the state into the analysis of the seesaw movement of capital. While Smith's framework has focused on examining the different ways in which the tendencies of differentiation and equalisation have created geographies of capital at different scales (Smith, 2010), the role of the state as a mediator in these processes is largely absent. This thesis demonstrates that the state has the capacity to both ameliorate, or enhance the patterns of UD that emerge from the seesaw movement of capital. In this sense, this research aims to challenge the view that states, particularly in the Global South, are merely passive recipients of the consequences that follow large in-flows of capital during commodity booms – a trap that the resource curse literature has tended to fall into.

Finally, this thesis has demonstrated the value of incorporating the spatial dimension into analyses of political economy processes. Understanding space as a relational concept, that is, as generated by social interactions, can shed light on dynamics of wealth creation and distribution, the role of the state, and the emergence of alternative scales for the organisation of the economy. This thesis has provided a unique demonstration that the 'spatial turn' experienced in other social sciences can contribute to the discipline of IPE by highlighting the importance of seeing geography and space not as purely natural phenomena, but as expressions of transformations in the capitalist economy.

Limits and prospects

This thesis has addressed a number of gaps in the literature on Latin American Studies, Agrarian Studies, and the IPE of development. However, as with all social enquiry, the processes and dynamics explored in this thesis generate new questions and possible avenues for future research.

To study the production and trade of soybean in three different countries, covering a very extensive geographical area, presented a significant challenge, given the limited amount of time and resources available for this research.

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While this thesis highlighted several processes that have been overlooked, such as the development of infrastructure, the empirical analysis of the spatio-temporal matrix of the soybean complex can be further enriched by analysing other manifestations of the fixed environment. For example, the role of storage facilities, such as the use of silo-bags, can affect the capacity to expand production, thus potentially changing patterns of supply, as well as the capacity to retain or store production for longer periods of time, as was mentioned in the case of Argentina. The relevance of this dimension is not be limited to soybean. Recently, a report by British think tank Chatham House highlighted the growing risks of trade chokepoints for global food security, signalling the increasing importance of transport infrastructure and logistics for the global political economy (Bailey and Wellesley, 2017).

While soybean was one of the main commodities that experienced a very significant rise in volumes of production and trade fuelled by growing demand and rapid increases in price, a spatial analysis of the governance of the creation and distribution of wealth can be expanded to other commodities with significant impacts on the political economy of different regions. Future analysis could, for example, focus on the palm oil complex, which has been particularly relevant for South-East Asia, West Africa, and the tropical regions of Latin America; as well as corn, coconut, and many others.

Besides the empirical analysis of other flex crops, further research is needed on the links between the commodity boom and state transformation in Latin America. This could be achieved by expanding the scope of case studies, as well as analysing in more depth the socio-economic implications of an expanded primary exports growth model. As mentioned in Chapter 2, while much of the literature on the neo-extractivist model points to the redistributive impact of royalties and export taxes, more empirical research is needed to provide substantive evidence of this. This is particularly relevant in a context in which the 'pink tide' that characterised the region since the mid-2000s appears to be receding.

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Finally, the theoretical approach developed here can provide insight into an additional area of study that has not been fully explored in this thesis, namely the manner in which processes of UD, specifically linked to dynamics such as the commodity boom, *produce nature*. In order to understand the current and dramatic global geographical transformations, and their implications for governance, development, and power relations in the global political economy, IPE should continue to expand its research agenda beyond the binary notion of society and nature as independent. Jason W. Moore proposes that capitalism should be understood as 'a way of organizing nature' (Moore, 2015) and, in this sense, it is important to explore the different ways in which the global economy and nature co-constitute one another.

This thesis argued that capital's search for profit in the context of an asset price bubble has created a geography of soybean that crosses the borders of several countries of the Southern Cone, and which has in turn enabled the further expansion of the profits in this sector. Through the simultaneous development of fixed structures and the promotion of capital mobility – enhanced by state strategies of reterritorialisation and deterritorialisation – the geography of the region has adopted a very particular configuration that responds to the demands of soybean capital. In this process, the soybean boom has created patterns of UD at different scales – from the local and national to the regional and global – while also creating new scalarities in the process. However, the processes examined in this thesis are representative of one moment in the seesaw movement of capital: the boom, during which capital floods into those areas and sectors where profitability is highest. It remains to be seen the larger effects of the totality of the process of UD, when a decline in profitability and international prices of soybean provoke capital to flee to other regions and other assets. Perhaps only then will we see the full extent of the plunder that Soylandia has generated.

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Appendix I

List of interviews

Argentina

Reference	Name	Organisation	Position	Date	Place
GPS	Anonymised	GPS - Group of Producing Countries from the Southern Cone	Coordinator	20 June 2014	London, UK
Syngenta	Anonymised	Syngenta	Salesman	19 August 2014	Salta, Argentina
CARI	Anonymised	GPS CARI - Argentine Council for International Relations	Consultant to FAO General Director Former Sub-Secretary of Agrarian Economy of Argentina	17 September 2014	Buenos Aires, Argentina
Los Grobo	Gustavo Grobocopatel	Grupo Los Grobo (Agribusiness and Investment Company)	President Grupo Los Grobo	22 September 2014	Buenos Aires, Argentina
FIEL	Anonymised	FIEL - Foundation of Latin American Economic Research	Senior Economist	23 September 2014	Buenos Aires, Argentina
CIARA	Anonymised	CIARA - Chamber of Oil Industry of Argentina	Corporate Communications and Institutional Relations Manager	29 September 2014	Buenos Aires, Argentina
Ministry of Agriculture Argentina	Anonymised	MINAGRO - Ministry of Agriculture, Livestock and Fishing, Argentina	Director of Finance Sub-secretariat of Added Value and New Technologies (MINAGRO)	29 September 2014	Buenos Aires, Argentina

Reference	Name	Organisation	Position	Date	Place
ICBC	Anonymised	ICBC Foundation	President Former Secretary of Trade	30 September 2014	Buenos Aires, Argentina
ACSOJA	Anonymised	NIDERA ACSOJA - Argentine Soybean Chain Association	President ACSOJA	1 October 2014	Buenos Aires, Argentina
NIDERA	Anonymised	NIDERA	Industrial Director	3 October 2014	Buenos Aires, Argentina
CAF	Anonymised	CAF - Development Bank of Latin America	Representative Director in Argentina - Former Minister of Foreign Affairs of Paraguay	3 October 2014	Buenos Aires, Argentina
ELYPSIS	Anonymised	ELYPSIS - Consultant Company	Senior Economist	3 October 2014	Buenos Aires, Argentina
Bolsa de Cereales	Anonymised	Bolsa de Cereales (Buenos Aires Grains Exchange)	Chief Economist	6 October 2014	Buenos Aires, Argentina
Former Secretary of Agriculture	Anonymised	UBATEC	President UBATEC- Former Secretary of Agriculture, Cattle and Fishing 2009- 2012, Argentina	7 October 2014	Buenos Aires, Argentina
Molinos	Anonymised	Molinos Rio de la Plata, S.A.	Origin and Trading - Research Manager	8 October 2014	Buenos Aires, Argentina
AAPRESID	Anonymised	AAPRESID - Argentine Association of No Till Producers	Former President of AAPRESID - Co-founder of Argentinian seed company Don Mario	22 October 2014	Buenos Aires, Argentina

Reference	Name	Organisation	Position	Date	Place
LDC	Anonymised	Louis Dreyfus Commodities	Regional Manager LD Commodities	27 October 2014	Buenos Aires, Argentina
LCG Consultant	Anonymised	LCG Consultancy Company	Former Secretary of Political Economy (2007-2008) Argentina	19 December 2014	Buenos Aires, Argentina

Brazil

Reference	Name	Organisation	Position	Date	Place
ABAG	Anonymised	ABAG - Brazilian Agribusiness Association	Director	04 November 2014	São Paulo, Brazil
FGV	Anonymised	GV AGRO - Getulio Vargas Foundation, Centre for Agribusiness Studies	Professor	06 November 2014	São Paulo, Brazil
ABIOVE	Anonymised	ABIOVE - Brazilian Association of Vegetable Oils Industries	Manager - Economist	07 November 2014	São Paulo, Brazil
NIDERA Brazil	Anonymised	NIDERA Sementes Brazil	Pesquisa Soja (Soybean Research)	07 November 2014	Skype
EMBRAPA	Anonymised	EMBRAPA International Relations Secretariat / Ministry of Agriculture, Livestock and Food Supply	Analyst / Director of Coffee Department	10 November 2014	Brasilia, Brazil

Reference	Name	Organisation	Position	Date	Place
SPA	Anonymised.	Ministry of Economy, Secretary of Economic Policy, Brazil	Secretary-Adjoint of Agricultural and Environmental Policy	10 November 2014	Brasilia, Brazil
SPE	Anonymised	Ministry of Economy, Secretary of Economic Policy, Brazil	Consultant - Secretary of Political Economy	10 November 2014	Brasilia, Brazil
IICA	Anonymised	IICA - Inter-American Institute for Cooperation in Agriculture	Project International Specialist Southern Region	11 November 2014	Brasilia, Brazil
MAPA(a)	Anonymised	Ministry of Agriculture, Livestock and Food Supply (MAPA)- Secretariat of Agricultural Policy	Advisor	11 November 2014	Brasilia, Brazil
MAPA(b)	Anonymised	Ministry of Agriculture, Livestock and Food Supply (MAPA)- Secretariat of Agricultural Policy	General Coordinator of Cereal and Annual Crops	11 November 2014	Brasilia, Brazil
Barral Consultants	Welber Barral	Barral M Jorge Consultants on International Trade and Government Relations	Former Secretary of Foreign Trade of Brazil Arbitrator in Permanent Court of Revision of Mercosur and the World Trade Organization (WTO)	11 November 2014	Brasilia, Brazil
APROSOJA	Anonymised	APROSOJA Brasil - Brazilian Soybean Producers Association	Technical Advisor	13 November 2014	Brasilia, Brazil

Reference	Name	Organisation	Position	Date	Place
CNA(a)	Anonymised	CNA - Brazilian Confederation of Agriculture and Livestock	Technical Advisor - Technical Department	13 November 2014	Brasilia, Brazil
CNA(b)	Anonymised	CNA - Brazilian Confederation of Agriculture and Livestock	Head - International Relations	13 November 2014	Brasilia, Brazil
Ministry of Development Brazil	Anonymised	Ministry of Development, Industry and Foreign Trade - Department of International Negotiations	Foreign Trade Analyst - General Coordinator (MERCOSUR and ALADI)	14 November 2014	Brasilia, Brazil
CPDA(a)	Anonymised	Federal Rural University of Rio de Janeiro (UFRRJ)- Graduate Program in Development, Agriculture and Society (CPDA)	Professor	17 November 2014	Rio de Janeiro, Brazil
CPDA(b)	Anonymised	Federal Rural University of Rio de Janeiro (UFRRJ)- Graduate Program in Development, Agriculture and Society (CPDA)	Researcher	19 November 2014	Rio de Janeiro, Brazil
CEBRI(a)	Anonymised	CEBRI (Brazilian Centre for International Relations)	Former Ambassador to Argentina	19 November 2014	Rio de Janeiro, Brazil
CEBRI(b)	Anonymised	CEBRI (Brazilian Centre for International Relations)	Project Coordinator	19 November 2014	Rio de Janeiro, Brazil

Agroconsult	Anonymised Anonymised	AGROCONSULT - Consultant Company	Analyst	25 November 2014	São Paulo, Brazil
GV AGRO	Roberto Rodrigues	Getulio Vargas Centre for Agribusiness Studies (GV AGRO)	Coordinator GV AGRO Former Minister of Agriculture of Brazil (2003- 2006)	25 November 2014	São Paulo, Brazil
FIESP	Anonymised	Federation of Industries of the State of Sao Paulo (FIESP)	Manager – Department of Agribusiness	27 November 2014	São Paulo, Brazil
SRB	Anonymised	Rural Society of Brazil (SRB)	Former President of SRB	27 November 2014	São Paulo, Brazil

Paraguay

Reference	Name	Organisation	Position	Date	Place
UGP(a)	Anonymised	UGP (Union of Production Trade Unions of Paraguay)	Manager	13 October 2014	Asuncion, Paraguay
UGP(b)	Anonymised	UGP (Union of Production Trade Unions of Paraguay)	Consultant; former Min. of Agriculture and Environment of Paraguay	13 October 2014	Asuncion, Paraguay

UGP(c)	Anonymised	UGP (Union of Production Trade Unions of Paraguay)	President of UGP	13 October 2014	Asuncion, Paraguay
IPIE	Anonymised	IPIE (Paraguayan Institute of Economic Research)	Researcher	14 October 2014	Asuncion, Paraguay
CAPPRO	Anonymised	CAPPRO (Chamber of Industries and Exporters of Cereals and Oilseeds of Paraguay)	President	15 October 2014	Asuncion, Paraguay
BASE IS	Anonymised	BASE IS (Social Research Institute)	Researcher	15 October 2014	Asuncion, Paraguay
CAPECO	Anonymised	CAPECO (Paraguayan Grains and Oilseeds Traders Associations)	International Trade Consultant	16 October 2014	Asuncion, Paraguay
MERCOSUR	Anonymised	TPR MERCOSUR (Permanent Tribunal of Revision)	Secretary of Tribunal - Head of Mission	16 October 2014	Asuncion, Paraguay

Uruguay

Reference	Name	Organisation	Position	Date	Place
UAG	Anonymised	UAG (Union Agriculture Group)	Operations Manager	10 December 2014	Montevideo, Uruguay
ADP	Anonymised	ADP (Agribusiness company associated to Grupo Los Grobo)	Director	10 December 2014	Montevideo, Uruguay
GPS UY	Anonymised	GPS - Group of Producing Countries from the Southern Cone	Steering Committee GPS	10 December 2014	Montevideo, Uruguay