Industrial policy and structural change in Brazil after the Washington Consensus (2003 – 2014)

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TABLE OF CONTENTS

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LIST OF ILLUSTRATIONS

ABSTRACT

After almost two decades as the dominant paradigm in development thinking and policymaking, the international adherence to the Washington Consensus, both intellectually and politically, has been on the wane since the late 1990s, paving the way for a more heterogeneous global landscape where different national models of development coexist. At the same time, there has been a shift in the debate on the use of industrial policy by national governments to promote economic development. This is evident not only in the revival of industrial policy by policymakers, but also in the renewed academic interest in this topic.

This dissertation contributes to the debates on the recent revival of industrial policy and on the weakening of the Washington Consensus by focusing on the case of Brazil during the two Lula governments and Rousseff's first presidential term (2003-2014). Brazil stands out as a particularly relevant case study for these debates for three reasons. First, because it is a large emerging economy which embraced the Washington Consensus from the late 1980s and then deviated from it in the 2000s. Second, because it has been challenging the traditional power structures of the global political economy. And, finally, because it constitutes a prominent example of the contemporary revival of industrial policy.

The political trajectory of Brazil during this period is portrayed in the literature as a partial and progressive shift away from the Washington Consensus and towards neo-developmentalism, which is typified by the revival of industrial policy. Nonetheless, contrary to the aspirations of neo-developmentalism, instead of the diversification of the country's economy towards higher-technology industries, the revival of industrial policy in Brazil witnessed the continuation, and even acceleration, of the deindustrialisation of the productive structure and the re-primarisation of the export basket.

In addition to a literature review of relevant secondary sources, a comparative document analysis of the three industrial policy plans announced by the Brazilian governments during this period is performed in this dissertation to shed some light on the apparent paradox of the revival of industrial policy in Brazil. In particular, the analysis aims to trace the existence of a concern at the evidence of deindustrialisation and re-primarisation across these industrial policy plans, including possible inflection points in this concern over time induced by the changing economic context, and to consider to what extent these plans validate the liberal/neo-developmental binary used in the literature to characterise the Brazilian policy regime after the Washington Consensus.

The findings from the analysis suggest that the concern about the tendencies towards deindustrialisation and re-primarisation across the three industrial policy plans was erratic and very sensitive to the changing economic context faced by the Brazilian governments. In this light, it is argued that the nature of Brazilian industrial policy between 2003 and 2014 cannot be thoroughly explained by the representation of the Brazilian policy regime as a liberal/neo-developmental binary where industrial policy typifies the neo-developmental side. Alternatively, the hypothesis advanced in this dissertation is that industrial policy during this period reflected the uneasy *modus vivendi* of neo-developmentalism and neo-extractivism in the Brazilian political economy.

KEYWORDS: Brazil; industrial policy; deindustrialisation; re-primarisation; Washington Consensus; neo-developmentalism.

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DECLARATION

No portion of the work referred to in the dissertation has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

INTELLECTUAL PROPERTY STATEMENT

LIST OF ACRONYMS

ABDI	Brazilian Industrial Development Agency
BNDES	Brazilian Development Bank
BRICs	Brazil, Russia, India, China
CNDI	National Industrial Development Council
GDP	Gross domestic product
IMF	International Monetary Fund
Ipea	Institute for Applied Economic Research
PBM	*Brasil Maior* Plan
PDP	Productive Development Policy
PITCE	Industrial, Technological and Foreign Trade Policy
R&D	Research and development
UN DESA	United Nations Department of Economic and Social Affairs
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
WTO	World Trade Organization

1. INTRODUCTION

1.1. BACKGROUND

After almost two decades as the dominant paradigm in development thinking and policymaking, the international adherence to the Washington Consensus, both intellectually and politically, has been on the wane since the late 1990s, paving the way for a more heterogeneous global landscape where different national models of development coexist (Williamson 1993; Gore 2000; Babb 2013). In this context, several scholars have been trying to understand to what extent these alternative development models – particularly those of large emerging economies, such as Brazil, China, and India – differ from the Washington Consensus and in what ways they are transforming the structures of the global political economy (see, e.g., Wylde 2012; Babb 2013; Ban 2013; Ban and Blyth 2013; Henderson, Appelbaum and Ho 2013; Saad-Filho 2014; Hopewell 2015; and Gallagher 2016).

At the same time, there has been a shift in the debate on the use of industrial policy by national governments to promote economic development. This is evident not only in the revival of industrial policy by policymakers, but also in the renewed academic interest in this topic (Lauridsen 2010; Wade 2012; Gereffi and Sturgeon 2013; Warwick 2013; Chang and Andreoni 2016; Weiss 2016; Stiglitz 2017). Notably, whereas at the height of the Washington Consensus neoclassical economics was used to present the case against selective state intervention in the domestic productive structure, now it is frequently used to identify 'market failures' that justify the implementation of industrial policies (Chang and Andreoni 2016).

Brazil stands out as a particularly relevant case study for these research agendas. First, because it is a large emerging economy which embraced the Washington Consensus from the late 1980s and then partially and progressively deviated from it in the 2000s (Wylde 2012; Ban 2013). Second, because it has been challenging the traditional power structures of the global political economy, most notably at the World Trade Organization (WTO) (Hopewell 2013, 2015). And, finally, because it constitutes one of the most prominent examples of the contemporary revival of industrial policy (Peres 2011; Warwick 2013; Andreoni 2017).

Moreover, the economic and political developments in Brazil since the turn of the century provide an extraordinarily intricate illustration of these phenomena with many contrasts to be investigated. The partial rejection of the Washington Consensus since the election of Luiz Inácio Lula da Silva for President in 2002 is considered to have led to the establishment of a hybrid combination of liberal and neo-developmental economic policies where monetary policy is representative of the former and the revival of industrial policy typifies the latter (Ban 2013; Nassif and Feijó 2013). Furthermore, and contrary to the aspirations of neo-developmentalism (Bresser-Pereira 2011; Khan 2011), the return of industrial policy to Brazil after the Washington Consensus witnessed the continuation, and even intensification, of the tendencies towards deindustrialisation and the re-primarisation of the country's export basket, instead of the diversification of the Brazilian productive structure towards higher-technology industries (Jenkins 2014, 2015; Cypher 2015; Feijó and Lamonica 2017; Paula 2017).

Two competing hypotheses can be derived from the literature to explain this apparent paradox between the neo-developmental turn to industrial policy in Brazil and the acceleration of deindustrialisation and re-primarisation. On the one hand, it is argued that the neo-developmental resumption of industrial policy produced positive effects which, however, were neutralised by liberal monetary policies. Accordingly, it is claimed that, although attempting to promote structural change, industrial policy on its own was insufficient to contradict the tendencies towards deindustrialisation and re-primarisation (Nassif and Feijó 2013; Feijó and Lamonica 2017). On the other hand, some scholars consider that industrial policy in Brazil was not a positive, though unsuccessful, contribution to structural change. Instead, because it disproportionately favoured 'national champions' in the commodity sector, industrial policy in Brazil is portrayed as having been detrimental to structural change (Almeida 2009; Tautz et al. 2010; Carrillo 2014; Milanez and Santos 2015). Thus, this second hypothesis, unlike the previous one, calls into question the neo-developmental nature of contemporary industrial policy in Brazil. Notwithstanding the methodological difficulties associated with empirically testing the two hypotheses, the prominent role of Brazil both in the literature on the weakening of the Washington Consensus and in the literature on the recent revival of industrial policy warrants a closer scrutiny of this apparent paradox.

1.2. SCOPE OF THE DISSERTATION

The present dissertation contributes to the debates identified in the previous section by performing a comparative analysis of the three industrial policy plans announced in Brazil since 2003. In addition to outlining the main characteristics of these plans in the light of the recent literature on industrial policy, this dissertation is motivated by the following research questions:

1) To what extent did the industrial policy plans announced by the Brazilian governments between 2003 and 2014 reveal a concern about deindustrialisation and re-primarisation?

2) In what ways did continuity and change across these industrial policy plans reflect the evolution of the economic context faced by the Brazilian governments?

3) To what extent do these industrial policy plans validate the representation of the Brazilian policy regime during this period as a hybrid combination of liberal and neo-developmental policies in which the revival of industrial policy typifies the latter?

The findings from the analysis suggest that the concern about the tendencies towards deindustrialisation and re-primarisation across the three industrial policy plans was erratic and very sensitive to the changing economic context faced by the Brazilian governments. In this light, it is argued that the nature of Brazilian industrial policy between 2003 and 2014 cannot be thoroughly explained by the representation of the Brazilian policy regime as a liberal/neo-developmental binary where industrial policy typifies the neo-developmental side. Alternatively, the hypothesis advanced in this dissertation is that industrial policy during this period reflected the uneasy *modus vivendi* of neo-developmentalism and neo-extractivism in the Brazilian political economy.

1.3. DISSERTATION OUTLINE

In addition to this introductory chapter, the present dissertation is comprised of another four chapters. Chapter 2 draws a parallel between the rise and fall of the Washington Consensus as the dominant paradigm in development thinking and practice (Section 2.1) and the shifts in the debate on industrial policy as a tool to promote economic development (Section 2.2). It reviews the contemporary debate on industrial policy, which is framed by the weakening of the Washington Consensus, and highlights the main features thereof.

Chapter 3 traces the transformations that occurred in Brazilian politics (Section 3.1) and the country's productive structure (Section 3.2) since the election of Luiz Inácio Lula da Silva for President in 2002. It argues that the Brazilian political economy during this period is characterised by an apparent paradox, at least from a structuralist/neo-developmental perspective, between the revival of industrial policy and the continuation, and even acceleration, of the deindustrialisation of the productive structure and the re-primarisation of the export basket. Furthermore, it considers two competing hypotheses derived from the literature that attempt to explain this apparent paradox.

Chapter 4 performs a comparative analysis of the three industrial policy plans announced by the Brazilian governments between 2003 and 2014 to shed light on the nature of Brazilian industrial policy during this period and its contribution to the apparent paradox identified in Chapter 3. Section 4.1 introduces the methodology of analysis and the following three sections present the findings for each of the three industrial policy plans. The last section of this chapter, Section 4.5, discusses these findings in the light of the literature on state-business relations in Brazil and the ongoing political transformations in natural resource-rich Latin American countries in order to answer the research questions that motivate this dissertation. Finally, Chapter 5 concludes by summarising the main arguments and outlining avenues for future work.

2. INDUSTRIAL POLICY VIA THE WASHINGTON CONSENSUS

2.1. THE RISE AND FALL OF THE WASHINGTON CONSENSUS

The term 'Washington Consensus' was introduced by Williamson (1990, 1993) to label a list of ten economic policy reforms which reflected the 'conventional wisdom' of the US government and the Washington-based international financial institutions, and that should be implemented by Latin American governments to correct the region's economic problems which had been exposed by the Third World debt crisis of the early 1980s (Babb 2013). The prescribed policy reforms aimed fundamentally at reducing the role of the state in the economy by prioritising macroeconomic discipline, privatisation, deregulation, and liberalisation (Williamson 1993). Furthermore, through the practices of the international financial institutions, notably the International Monetary Fund (IMF) and the World Bank, the policy reforms associated with the Washington Consensus grew continuously and went far beyond their original remit, covering issues such as capital account liberalisation, labour market reform, and social policy, as well as institutional aspects of 'good governance' (Babb 2013; Kentikelenis, Stubbs and King 2016).

Therefore, instead of a very specific list of policy reforms, Gore (2000) and Babb (2013) refer to the Washington Consensus as a 'paradigm', understood as an enduring and authoritative framework of ideas. The ways in which the two authors use the concept of 'paradigm' are different, but complementary. Gore (2000) uses the notion of a 'scientific paradigm' in the Kuhnian sense to analyse how the Washington Consensus entailed profound changes in the ideas about what constitutes an economic problem, how it is explained, and how it can be solved. According to Gore (2000), the intellectual changes induced by the Washington Consensus paradigm are underpinned by a normative commitment to a 'liberal international economic order', characterised by free markets, private property, individual incentives, and a limited role for the government in the management of the economy.

On the other hand, studying its international diffusion, Babb (2013:275) portrays the Washington Consensus as a 'policy paradigm', i.e. a framework of policy ideas which specifies "both a goal and a policy instrument to achieve that goal". The free-market reforms associated with this policy paradigm were promoted across the developing world by the international financial institutions' policy-conditional lending, which became a common practice in development assistance after the Third World debt crisis (Babb 2013; Kentikelenis, Stubbs and King 2016). In fact, Babb (2013) argues that policy-conditional lending, combined with the presence of 'sympathetic interlocutors' in developing countries' governments and the normative pressures from the academic discipline of economics, led to the establishment of the Washington Consensus as the 'transnational policy paradigm'.

However, the position of the Washington Consensus as the dominant scientific paradigm in development thinking and the transnational policy paradigm has been weakened by three main challenges emanating from the academic and political spheres over the years. The first challenge resulted from the consolidation of a more nuanced understanding of the East Asian development models in the literature (Gore 2000). Whereas these were initially portrayed as conforming to pro-free market attitudes – an interpretation that the World Bank (1993) tried to preserve in *The East Asian miracle* report (Wade 1996) –, it has been demonstrated that, despite the diversity of experiences, the active role played by the state in these countries' development successes deviated significantly from the recommendations of the Washington Consensus (Chang 1996, 2003; Lall 1996).

The second challenge consisted in the widespread rejection of the Washington Consensus across Latin America at the turn of the century with the election of several governments that explicitly opposed the recommendations of the international financial institutions, and that reclaimed a greater role for the state in promoting economic development (Jilberto and Hogenboom 2010; Wylde 2012; Babb 2013). These political events are particularly significant given that Latin American countries were the original recipients of the Washington Consensus as formulated by Williamson (1990). Moreover, the generalised adoption of liberal economic policies across these countries had constituted a 'paradigm shift' in the region, marking the end of the era of state-led industrialisation (Ocampo and Ros 2011; Babb 2013). However, the promise of economic growth upon the implementation of the recommended policies failed to materialise and, moreover, capital account liberalisation aggravated the external vulnerability of these countries and paved the way for a series of financial crises in the late 1990s and early 2000s (Babb 2013; Gallagher 2016). As a consequence of the rejection of the Washington Consensus, IMF lending to the region plummeted since the turn of the century (Kentikelenis, Stubbs and King 2016). To a large extent, these countries were able to avoid engaging again with the international financial institutions due to the rise of China – first, as a source of growing demand for the commodities exported by these countries (Jilberto and Hogenboom 2010; Gallagher 2016), and, later, also as an alternative source of finance (Gallagher 2016; Kaplan 2016).

Finally, the third, and most recent, challenge to the dominant position of the Washington Consensus is precisely that posed by the rise of China and other large emerging economies such as Brazil and India. Usually grouped as 'Rising Powers', or as part of the BRICs (Brazil, Russia, India, China), these economies are characterised by a more active role for the state in the promotion of economic development than what is recommended by the Washington Consensus (Ban and Blyth 2013; Nadvi 2014). Not only have these countries managed to insulate themselves from the influence of the international financial institutions, they have also been acting as leaders of the Global South in trying to change the traditional power structures within these institutions and at the WTO (Babb 2013; Hopewell 2015). At the same time, growing South-South cooperation and trade have been changing the global economic geography (Horner 2016) and challenging the conventional dichotomies of development assistance (Henderson, Appelbaum and Ho 2013).

Still, despite the shifts in the global political economy brought about by the 'rise of the South' (UNDP 2013), for a signification number of developing countries that still interact with the international financial institutions, little has changed since the turn of the century in terms of policy-conditional lending and the policy reforms demanded by the international financial institutions (Babb 2013; Kentikelenis, Stubbs and King 2016). Furthermore, although deviating from the Washington Consensus, the alternative domestic paradigms of the Rising Powers/BRICs still maintain some of its central features, such as the preoccupation with macroeconomic stability (Babb 2013). In this light, Babb (2013) concludes that, instead of the emergence of a new paradigm that replaced the Washington Consensus as the transnational policy paradigm, the weakening of the Washington Consensus paved the way for a more heterogeneous global landscape where different national and regional paradigms coexist. Against this background, the next section shows how the weakening of the Washington Consensus coincided with a shift in the academic and political debate on the use of industrial policy by national governments to promote economic development.

2.2. THE INDUSTRIAL POLICY DEBATE

Within discussions on economic policy and the role of state in the economy, industrial policy stands out as a particularly controversial topic, not least because there is no widely accepted definition of what constitutes industrial policy (Chang 1996; Suzigan and Furtado 2006; Warwick 2013). Chang (1996) observes that there is a tendency in the literature to 'overload' this concept and define industrial policy as any policy which might affect the economy. Industrial policy plans may in fact be quite broad and involve a coordinated combination of different policies, such as competition policy, fiscal policy, technology policy, and trade policy, as well as measures regarding credit allocation (e.g. via state-owned development banks), foreign direct investment, intellectual property rights, and public procurement (Cimoli, Dosi and Stiglitz 2009; Peres and Primi 2009; Lauridsen 2010; Chang and Andreoni 2016; Stiglitz 2017). However, these policies do not always qualify as industrial policy.

There are three crucial elements for a definition of industrial policy that acknowledges its openness without overloading the concept and differentiates it from other economic policies. First, industrial policy targets particular industries and, therefore, is *selective* (Chang 1996). This means that horizontal policies, in domains such as education and infrastructure, are excluded from the concept of industrial policy. Second, despite its selective nature, the ultimate goal of industrial policy is not to benefit those sectors *per se* but the economy as a whole (Chang 1996). Thus, selectivity is justified on the grounds that the selected sectors have greater potential to generate economic development because they are better positioned to induce productivity gains, generate and spread technical progress across the economy, or produce goods which benefit from a more dynamic – i.e. more income-elastic – demand (Reinert 2007; Cimoli, Dosi and Stiglitz 2009; Coutinho et al. 2012; Ocampo 2014). Finally, in order to achieve its ultimate goal, industrial policy may have three different, but interrelated, objectives: *i)* fostering the development of new sectors and, thus, changing the sectoral composition of the economy – 'industrial diversification', *ii)* facilitating the adoption and mastering of more complex technologies by domestic firms and, therefore, allowing them to move up the value chain within their particular sectors and capture a greater portion of the value added – 'industrial upgrading', and *iii)* establishing and strengthening networks of synergetic linkages and complementarities between different sectors and firms – 'industrial deepening' (Lauridsen 2010).

Some authors have suggested alternative designations to 'industrial policy', such as 'production development policy' (Ocampo 2014) or 'productive sector policy' (Kaplinsky and Morris 2016), to emphasise that the industrial sector is not necessarily always superior to the primary sector or the services sector as a driver of technical progress and that upgrading within value chains may entail moving away from the physical transformation of goods and towards activities such as design, branding, and marketing. However, such understanding already informs recent contributions to the industrial policy literature which adopt a broad definition of 'industry' to include all dynamic sectors, technologies or tasks that have the potential to generate economic development (Rodrik 2004; Lauridsen 2010;

Warwick 2013; Stiglitz 2017). Moreover, as pointed out by Colman and Nixson (1994), at a broader level, the term 'industrialisation' describes a change in the mode of organisation of production and is not associated with any particular (industrial) goods. In this sense, "all sectors of the economy… can be 'industrialised' " (Colman and Nixson 1994:279). Thus, to the extent that 'industry' is understood in a broad sense, the term 'industrial policy' need not be abandoned.

In addition to the aforementioned disagreements over its definition, the industrial policy literature is characterised by a long-lasting – and, according to Chang (2011), 'unproductive' – debate between competing views on the reasons why industrial policy should or should not be pursued. While the main theoretical arguments in favour and against industrial policy are beyond the scope of this dissertation – for a review, see, for example, Chang (1996), Shapiro (2007), Lauridsen (2010), and Chang and Andreoni (2016) –, it is relevant to note how the changing direction of this debate overlaps with the 'paradigm shifts' and the rise and fall of the Washington Consensus discussed in Section 2.1.

During the period of state-led industrialisation in the mid-20th century, the dominant view in this debate was clearly favourable to industrial policy. Predicated on Latin American structuralism and the emerging sub-discipline of development economics, the use of industrial policy was justified to build a domestic manufacturing sector that would promote economic development in the Global South (Shapiro 2007; Wade 2012; Ocampo 2014; Chang and Andreoni 2016). However, with the dawn of the Washington Consensus, this understanding was replaced by the view that "[t]he best industrial policy is none at all" (Gary Becker, cited in Wade 2012:223). This opposition to industrial policy was supported by two main arguments derived from neoclassical economic theory (Shapiro 2007; Chang and Andreoni 2016). First, it was argued that industrial policy, by distorting the functioning of markets, was intrinsically inefficient by neoclassical standards and thus led to suboptimal economic outcomes (Lall 2004; Shapiro 2007; Peres and Primi 2009). Second, neoclassical economists contributing to the 'government failure' literature claimed that governments lacked the information and the skills to make selective interventions in the economy and, therefore, instead of promoting economic growth, industrial policy would promote a detrimental reallocation of resources from productive uses to rent-seeking, favouring corruption and clientelism (Lall 1996; Shapiro 2007; Peres and Primi 2009; Chang and Andreoni 2016).

Yet, as the transnational influence of the Washington Consensus began to wane, and especially after the 2008 global financial crisis, industrial policy returned to both policy and academic forums, gaining increasing acceptance within neoclassical economics (Lauridsen 2010; Wade 2012; Gereffi and Sturgeon 2013; Warwick 2013; Chang and Andreoni 2016; Weiss 2016; Stiglitz 2017). Hence, Chang and Andreoni (2016) refer to this phase of the debate as the 'mainstreaming' of industrial policy. Because, whereas in the 1980s neoclassical theories of market efficiency and government failure were used to present the case against industrial policy, the same methodological toolkit of neoclassical economics is now being deployed by leading neoclassical economists, most notably Dani Rodrik (2004) and Justin Lin (2017), to identify 'market failures' that justify the use of industrial policy (see also Felipe 2015).

However, market failure arguments entail accepting the neoclassical representation of static, rational, and perfectly competitive markets as a valid benchmark for how markets should function in reality and, therefore, can be quite problematic (Cimoli et al. 2009). Adopting a political economy perspective, and building on the influential work of Karl Polanyi, several scholars (see, for example, Chang 2002; Harriss-White 2003; Cimoli et al. 2009; and Mazzucato 2016) have contested the neoclassical representation of the (free) market, arguing instead that markets are political constructs, shaped by power and interests, and therefore never *free*. Accordingly, state intervention, e.g. through industrial policy, is not merely an external influence on the market, but an integral feature thereof. This political understanding of markets is also explicitly incorporated into more recent contributions to this debate that, instead of being informed by neoclassical economics, draw from the Latin American structuralist tradition and other heterodox schools of thought (see, for example, Cimoli et al. 2009; and Peres and Primi 2009).

One influential strand of the literature whose contributions have been combined with insights from Latin American structuralism in the recent industrial policy literature is the national innovations systems approach. This approach, situated within the neo-Schumpeterian and evolutionary schools of economic thought, emerged from the 1980s as an explicit alternative to the policy prescriptions associated with the Washington Consensus, as well as their neoclassical assumptions about the functioning of markets, emphasising instead the importance of knowledge, learning, and innovation to economic development (Suzigan and Furtado 2006; Lundvall 2007; Warwick 2013). The "most basic characteristic" of this approach is the understanding of learning and innovation as processes which occur through the interaction among different components of the 'system' (Lundvall 2007:107). Thus, the innovation and learning that take place within a firm cannot be exclusively attributed to internal factors. Instead, these result from the interaction with other firms, universities, and technology centres, as well as the wider institutional setting in terms of, *inter alia*, national education systems, labour and financial markets, and intellectual property rights regimes (Lundvall 2007).

The importance ascribed to these systemic interactions follows from the recognition that, in addition to 'science-based' knowledge that may be codified, knowledge has several tacit elements which are 'experience-based' and result from processes of learning by doing, using, and interacting (Lundvall 2007). Thus, because knowledge cannot be bought off the shelf and immediately put into productive use, but requires a lengthy, costly, and fundamentally uncertain learning process, contributions to the industrial policy literature that borrow from this neo-Schumpeterian, evolutionary approach consider that industrial policy may play a fundamental role in promoting economic development by facilitating this process (Lall 2004; Cimoli et al. 2009; Peres and Primi 2009; Lauridsen 2010; Chang and Andreoni 2016).

Besides devoting more attention to the dynamics of knowledge, learning, and innovation, the current phase of the industrial policy debate is characterised by a greater focus on practice and implementation, i.e. the 'how' of industrial policy (Rodrik 2004; Peres and Primi 2009; Lauridsen 2010; Naudé 2010; Warwick 2013). In this strand of the literature, the dominant view, heavily influenced by the work of Peter Evans (1995) on 'embedded autonomy' in developmental states, is that the effective implementation of industrial policy requires an institutional setting that allows public officials to obtain information from business representatives about the specific challenges of their sectors, but at the same time impedes the capture of public officials by those private interests (Rodrik 2004; Chang 2011). In this sense, the implementation of industrial policy may benefit from the creation of formal and transparent deliberation councils where representatives from the public and the private sectors can exchange information and coordinate efforts (Rodrik 2004).

In a similar vein, it is considered that the success of industrial policy depends on combining both 'support' and 'challenge' measures (Schmitz 2007) to overcome the rent-seeking problems attributed to industrial policy by the government failure literature (Cimoli et al. 2009; Chang and Andreoni 2016). 'Support' may be provided in the form of trade protectionism or by transferring resources from the state to firms (e.g. through subsidies, tax incentives, or concessional loans), while 'challenge' measures may include setting performance targets to recipient firms, forcing them into export markets, and progressively reducing barriers to imports (Lall 2004; Rodrik 2004; Schmitz 2007; Chang 2011; Weiss 2016). Furthermore, owing to its selective nature, industrial policy is bound to generate conflicts between different sectors, technologies, and firms and to be considered unfair or illegitimate by those who do not receive support (Felipe 2015; Chang and Andreoni 2016). Nevertheless, it is acknowledged in more recent contributions to the academic debate that the political legitimacy of industrial policy can be improved if governments publicly announce their policy priorities in advance through industrial policy plans that establish a time frame for this support and define clear performance targets and evaluation criteria (Rodrik 2004; Felipe 2015; Chang and Andreoni 2016).

Finally, the literature on the practice of industrial policy shows that there is no optimal static approach to industrial policy and that industrial development is compatible with a wide variety of industrial policy strategies (Chang 2011; Andreoni 2017). This happens because industrial policy does not take place in a vacuum, but instead is shaped by the industrial structure and political context of each country (Andreoni 2017) and inevitably interacts with other policies, such as macroeconomic policy (Cimoli, Dosi and Stiglitz 2009; Chang and Andreoni 2016). Thus, industrial policy requires constant experimentation to respond to new contexts and emerging challenges (Maio 2009; Lauridsen 2010) and, in this sense, "the only generally valid recommendation is to avoid policy incoherence" (Felipe 2015:3). Moreover, the current possibilities for industrial policy are greatly constrained by what happens outside the boundaries of the domestic political economy. Accordingly, unlike in the period of state-led industrialisation and trade protectionism, contemporary industrial policy has to grapple with the challenges posed by the geographical fragmentation of production into global production networks (Gereffi and Sturgeon 2013; Nixson 2015; Chang and Andreoni 2016; Kaplinsky and Morris 2016) and the rules of international trade and finance set by the WTO and other regional trade agreements (Wade 2003; Lall 2004; Chang and Andreoni 2016).

The following chapter focuses specifically on the transformations that occurred in Brazilian politics and in the Brazilian productive structure after the rejection of the Washington Consensus in that country. As the only common denominator between Latin America and the Rising Powers/BRICs, Brazil provides a particularly relevant case study of the weakening of the Washington Consensus as the dominant political and intellectual paradigm, as well as of the emerging dynamics that are re-shaping the global political economy. In fact, Brazil embraced the Washington Consensus from the late 1980s and then partially and progressively deviated from it in the 2000s (Wylde 2012; Ban 2013), and has challenged the traditional power structures of the global political economy, most notably at the WTO (Hopewell 2013, 2015). Furthermore, as one of the most prominent examples of the recent revival of industrial policy, not only in Latin America but across the world (Peres 2011; Warwick 2013; Andreoni 2017), the Brazilian experience also constitutes a compelling case study for the literature on the contemporary practice of industrial policy.

3. PARADIGM SHIFTS AND STRUCTURAL CHANGE IN BRAZIL

3.1. CONTINUITY AND CHANGE IN BRAZILIAN POLITICS

The Washington Consensus arrived in Brazil following the democratic transition from the military rule (1964-1985) and, particularly, with the election of President Fernando Collor de Mello in 1989 (Saad-Filho 2010; Wylde 2012). Before the Latin American debt crisis of the early 1980s, Brazil was one of the most prominent examples of state-led industrialisation in the region, having transitioned from import substitution to a more export-oriented variant of state-led industrialisation from the mid-1960s (Colman and Nixson 1994; Bresser-Pereira 2015). Brazil stood out as the fastest-growing economy in Latin America between 1950 and 1980 with an average annual *per capita* growth rate of 4.1% (Ocampo and Ros 2011:10). However, social development lagged behind economic development, and the distribution of this increased affluence aggravated existing inequalities in the Brazilian society, particularly during the later phase of state-led industrialisation under military rule (Suzigan and Furtado 2006; Saad-Filho 2010; Bértola and Ocampo 2012; Boschi 2014).

After the crisis of the early 1980s, the recognition of the exhaustion of the state-led industrialisation model by the national political elites, combined with the pressures exerted by the Washington-based international financial institutions, promoted a domestic paradigm shift in line with what was happening across other Latin American countries at the time (Saad-Filho 2003; Ocampo and Ros 2011). The most important policy of this period was the *Plano Real*, a stabilisation plan implemented from 1994 by Fernando Henrique Cardoso, initially as Finance Minister and then as President. The main goal of this plan was to eliminate high inflation, which it successfully achieved (Saad-Filho 2010; Wylde 2012). In fact, price stability is considered the "most notable achievement" of economic policymaking in Brazil in the 1990s (Amann and Baer 2002:948). Nevertheless, this plan's combination of high interest rates, exchange rate overvaluation, trade liberalisation, and capital account liberalisation worsened the country's balance of payments and sowed the seeds of the 1998-1999 financial crisis (Palma 2003; Saad-Filho 2010; Wylde 2012). Furthermore, economic growth remained weak during the 1990s and the policies implemented also failed to reduce entrenched inequalities in the Brazilian society (Amann and Baer 2002).

The election of Luiz Inácio Lula da Silva from the Workers' Party for President in 2002 constitutes the starting point of Brazil's shift away from the liberal policies associated with the Washington Consensus and towards a stronger role for the state in the economy (Williamson 2003; Wylde 2012; Ban 2013). Still, this shift was progressive and only became more evident during Lula's second administration (2007-2010) and the first administration of Dilma Rousseff (2011-2014) (Morais and Saad-Filho 2012; Ban 2013). Two factors are important in explaining the greater continuity with the Washington Consensus policies during the first Lula administration, particularly in the domain of macroeconomic policy. First, during the 2002 Presidential campaign, to dispel the financial markets' fears of a possible default after his election, Lula publicly affirmed his commitment to continue the fiscal and monetary policies of Fernando Henrique Cardoso (Wylde 2012). Second, when Lula took office on 1 January 2003, he inherited an IMF programme which had been negotiated by the previous government (Wylde 2012). So, only after the conclusion of this programme was Lula's government able to adopt a more expansionary fiscal policy (Ban 2013).

Thus, since the election of Lula in 2002, and particularly his re-election in 2006, the Brazilian policy regime has been characterised by a shift away from the Washington Consensus and towards 'neo-developmentalism' (Morais and Saad-Filho 2012; Ban 2013; Cypher 2015). According to Bresser-Pereira (2011), 'neo-developmentalism' (or 'new developmentalism') is a development policy paradigm for middle-income countries, such as Brazil, which finds its intellectual support in Latin American structuralism and the successful export-oriented development strategies of East Asian economies. Notably, neo-developmentalism is informed by the structuralist understanding of economic development as a process of structural change, according to which the relative size of modern industries and services in the composition of the economy shall increase *vis-à-vis* that of primary sectors as the country develops (Bresser-Pereira 2011; Khan 2011; Ban 2013; Ocampo 2014).

There is no agreement on the exact configuration of the neo-developmental paradigm in the literature: for instance, whereas Khan (2011:258) considers that industrial policy "is the core agenda of new developmentalism", Bresser-Pereira (2011) argues that, although important, industrial policy is subsidiary to exchange rate policy. However, there is a consensus that neo-developmentalism, unlike the Washington Consensus, attributes an important role to the state in promoting structural change, diversifying the productive structure, and managing the global insertion of the domestic economy so as to avoid excessive dependence on commodity exports (Bresser-Pereira 2011; Khan 2011; Ban 2013). In general, a neo-developmental strategy should include a variable combination of industrial policy, minimum wage policy, and capital controls, as well as taxes on commodity exports and an active exchange rate policy to ensure the international price-competitiveness of domestic manufactures (Bresser-Pereira 2011; Khan 2011; Ban 2013; Nassif and Feijó 2013).

Despite some significant shifts away from the Washington Consensus and towards neo-developmentalism in areas such as industrial policy, minimum wage policy, and capital controls, the Brazilian policy paradigm during this period still deviated from neo-developmentalism in several aspects, mainly in the macroeconomic domain (Ban 2013). First, the Central Bank of Brazil, whose political independence was further reinforced by Lula, maintained a restrictive monetary policy with the sole goal of controlling inflation (Wylde 2012; Ban 2013). Second, unlike other middle-income countries, Brazil did not use exchange rate policy to foster the international competitiveness of domestic manufactures during this period, allowing the currency to appreciate as a consequence of growing external demand for its natural resources (Wylde 2012). Finally, despite greater flexibility after the conclusion of the IMF programme, fiscal stability remained a constant preoccupation of economic policymaking in Brazil (Wylde 2012; Ban 2013).

Therefore, Ban (2013) employs the term 'liberal neo-developmentalism' to define Brazil's policy paradigm during this period as a hybrid combination of liberal and neo-developmental policy instruments and goals. This hybridity, or continuity and change in relation to the policies of the Washington Consensus, is also highlighted in other analyses of the Brazilian political economy after 2002 (see, e.g., Morais and Saad-Filho 2012; Wylde 2012; Nassif and Feijó 2013; Boschi 2014; Bresser-Pereira 2015; Cypher 2015; and Milanez and Santos 2015). As opposed to the continuity in macroeconomic policy, particularly monetary and exchange rate policies, the revival of industrial policy is considered paradigmatic of the more neo-developmental stance in Brazilian economic policymaking (Ban 2013; Nassif and Feijó 2013; Bresser-Pereira 2015; Cypher 2015).

In fact, after having been neglected during the Washington Consensus period, industrial policy returned to the centre of the economic policy agenda in Brazil in the very first year of the first Lula administration with the adoption of the Industrial, Technological and Foreign Trade Policy (PITCE) (Suzigan and Furtado 2006; Peres 2011; Coutinho et al. 2012; Kupfer, Ferraz and Marques 2013; Nassif and Feijó 2013). This industrial policy plan was then followed by the Productive Development Policy (PDP) in 2008, during Lula's second mandate, and the *Brasil Maior* Plan (PBM) in 2011, the first year of Rousseff's presidency (Kupfer, Ferraz and Marques 2013). However, instead of the diversification of the Brazilian productive structure towards higher-technology manufactures and higher value added services, as expected by the literature on neo-developmentalism (notably, Bresser-Pereira 2011; and Khan 2011), the return of industrial policy to Brazil after the Washington Consensus witnessed the continuation, and even intensification, of the regression of structural change that began in the 1980s (Palma 2014; Aldrighi and Colistete 2015). The following section analyses these transformations, reflected in the tendencies towards the deindustrialisation of the Brazilian productive structure and the re-primarisation of the country's export basket.

3.2. STRUCTURAL CHANGE IN THE BRAZILIAN ECONOMY

Between 2003 and 2014, the period of implementation of the three industrial policy plans of the Lula and Rousseff administrations, the average real *per capita* growth rate of the Brazilian economy was 2.3% (UNCTAD n.d.). This average rate hides significant variability in annual growth rates, whose dependence on the evolution of external demand has called into question the sustainability of the economic growth achieved during the commodity boom (Amann and Baer 2012; Ban 2013). The downside of Brazil's commodity-export-led growth has been highlighted by growing concerns about the *deindustrialisation* of the economy and the *re-primarisation* of Brazilian exports (Carrillo 2014; Jenkins 2014, 2015; Cypher 2015; Powell 2016; Paula 2017).

Although both concepts are strongly interrelated, they have different foci: whereas 'deindustrialisation' refers to changes in the domestic productive structure, 're-primarisation' describes a shift in the country's relative position in the global economy (Jenkins 2015). Hence, by 'deindustrialisation' it is meant a decreasing share of industry in the composition of the economy and can be measured in terms of employment or output (Rodrik 2016). Moreover, it can refer to the industrial sector as a whole, including manufacturing, extractive industries, construction, and utilities, or focus exclusively on manufacturing (Paula 2017). On the other hand, 're-primarisation' has been used to refer to a country's export basket becoming increasingly dominated by, especially, primary products, but also resource-based manufactures, such as iron ore and processed agro-products (Lall 2000), *vis-à-vis* other manufactured goods (see, e.g., Jenkins 2012, 2015). Still, although these definitions are not particularly controversial, it warrants emphasis that estimates of the degree of deindustrialisation and re-primarisation may vary across studies owing to different methodologies and classifications being used.

Deindustrialisation is often regarded as a *normal* outcome of mature economies moving into a post-industrial stage, where higher value added services become more important to the domestic consumption and production patterns (Palma 2014; Rodrik 2016; Paula 2017). Furthermore, empirical evidence of deindustrialisation can also be partly attributed to a productivity-growth lag of services in relation to manufacturing which results in the relative cost-inflation of the former, as well as to the statistical treatment of activities which were previously included in the manufacturing sector but are now outsourced to firms in the service sector (Chang 1996; Palma 2014; Paula 2017). However, what is peculiar to the process of deindustrialisation that has been taking place in Brazil, as well as other countries of the Global South, is that it has begun at much lower levels of income *per capita* than in the advanced economies of the Global North – thereby, warranting discussions about *'premature'* deindustrialisation (Palma 2014; Rodrik 2016). Notably, the dawn of premature deindustrialisation across Latin American countries coincided with the shift from the state-led industrialisation model to the Washington Consensus paradigm from the 1980s (Palma 2014).

While deindustrialisation in Brazil is not a recent phenomenon, but a continuing trend since the 1980s (Aldrighi and Colistete 2015), Feijó and Lamonica (2017:43) observe that this process has been accelerating over the recent years: the share of manufacturing in total domestic value added declined from 18.3% in 1996 to 16.7% in 2007 (a 1.6-percentage point decline over eleven years) and then to 13.1% in 2013 (a 3.6-percentage point decline over just six years). Furthermore, the Brazilian manufacturing industry became less technologically intensive during this period, as the share of high-technology manufactures in total manufacturing value added dropped from 12.4% in 1996 to 5.2% in 2012 (Feijó and Lamonica 2017:43-44).

As regards the re-primarisation of exports, Gereffi and Sturgeon (2013:Table 14.2) show that, between 2000 and 2011, primary products and resource-based manufactures increased their share in Brazilian exports by 11 and 10 percentage points, respectively, while the export shares of low, medium, and high-technology industries dropped by 7, 6, and 8 percentage points, respectively. Accordingly, while in 2000 primary products and resource-based manufactures accounted for 48% of Brazilian merchandise exports, by 2011 this figure had increased to 69% (Gereffi and Sturgeon 2013:Table 14.2). According to Paula (2017:72), in 2015 primary products alone represented 46% of Brazilian exports.

Furthermore, Brazilian exports also became much more concentrated in fewer products during this period, as measured by the Herfindahl-Hirschmann Index of product concentration, in which the value 1 stands for maximum concentration (i.e. just one product being exported by the country) and lower values indicate less concentration. The value of this index for Brazilian exports, which had been relatively stable between 1995 and 2003, increased from 0.085 in 2003 to 0.107 in 2008, and rapidly to 0.170 in 2011. Although it then decreased to 0.147 by 2014, such figure is still considerably higher than those recorded between 1995 and 2003 (UNCTAD n.d.). Thus, throughout this period, the gains from international trade to the Brazilian economy have concentrated in the sectors of agribusiness, meat production, mining, pulp and paper, and steel (Kupfer, Ferraz and Marques 2013). Moreover, these sectors have witnessed a substantial expansion of local capital and the consolidation of 'big business' in Brazil (Schneider 2009).

While the tendencies towards premature deindustrialisation and re-primarisation in the Brazilian economy have been widely documented, whether these constitute a cause for concern is a more contentious issue. In fact, this is a traditional point of contention between neoclassical economics and Latin American structuralism. Neoclassical growth theories are usually 'sector-indifferent', in the sense that they do not discriminate between sectors in terms of their potential to generate economic development, and therefore, from this theoretical standpoint, premature deindustrialisation does not constitute a hindrance to economic development (Palma 2014; Jenkins 2015). On the other hand, from a structuralist perspective, economic development is a process of structural change from a productive structure dominated by the primary sector towards a productive sector in which increasingly higher-technology industries and higher value added services predominate (Ocampo 2014). Therefore, owing to its 'sector-specific' account of economic development, from a structuralist viewpoint, (premature) deindustrialisation and re-primarisation represent a problematic reversal of the process of structural change (Palma 2014; Jenkins 2015). In fact, the current process of re-primarisation reflects the return to a situation of excessive reliance on primary products as sources of foreign-exchange reserves, which was precisely the situation that foundational contributions to structuralist thinking urged developing countries to avoid in the mid-20th century (see Prebisch 1950; and Singer 1950).

Therefore, the Brazilian political economy after the Washington Consensus is characterised not only by a hybrid policy regime that combines aspects from the liberal and the neo-developmental paradigms (Ban 2013), but also by an apparent paradox between neo-developmental efforts, notably in the domain of industrial policy, and actual outcomes. For, instead of industrial development, the return of industrial policy to Brazil witnessed an intense re-primarisation of the Brazilian export basket and the acceleration of the process of premature deindustrialisation that began in the 1980s.

There is evidence that the rise of China, as a prominent commodity-importer and manufacture-exporter, has had a considerable impact on the productive structures and the export profiles of several Latin American countries since the turn of the century, thereby fuelling fears of a 'new dependency' in the region (Gallagher and Porzecanski 2011; Jenkins 2012; Pérez Caldentey and Vernengo 2017). On the one hand, growing Chinese demand for primary products found in Brazil a source of continuous supply, notably of iron ore and soybeans (Jenkins 2014, 2015). This aspect cannot be overemphasised, considering that China is currently the main Brazilian export market, accounting for 18.6% of Brazil's merchandise exports (UN DESA 2016:106), and that more than 80% of Brazil's exports to China are comprised of primary products (Jenkins 2015:Figure 5). On the other hand, Brazilian manufacturing faced stiffening competition from Chinese manufacturers both in the internal market and in Brazil's main export markets of manufactures – not only in low-technology sectors, but increasingly in medium and high-technology sectors (Jenkins 2014, 2015).

Moreover, the currency appreciation that resulted from the surge in external demand for Brazil's commodities further undermined the price-competitiveness of Brazilian manufactures abroad (Jenkins 2014, 2015) – an effect known as the 'Dutch disease' in the 'resource curse' literature (Rosser 2006). During the commodity boom, the Brazilian *real* became "one of the most appreciated currencies in the emerging world" (Amann and Baer 2012:416). The appreciation of the domestic currency was compounded by the liberal orientation to monetary policy, since the continuation of a policy of high interest rates to maintain price stability impeded the strategic manipulation of the exchange rate to mitigate the Dutch disease (Cano and Silva 2010; Nassif and Feijó 2013; Feijó and Lamonica 2017).

Against this background, two competing explanatory hypothesis for the apparent paradox between the return of industrial policy and the acceleration of deindustrialisation and re-primarisation during this period can be derived from the literature. The first hypothesis is that, although the neo-developmental resumption of industrial policy produced positive effects, these were, however, neutralised by the liberal stance in monetary policy, and therefore industrial policy on its own was insufficient to effectively contradict the tendencies towards deindustrialisation and re-primarisation (Nassif and Feijó 2013; Feijó and Lamonica 2017). Alternatively, the second hypothesis is that industrial policy was not a positive, though ultimately unsuccessful, contribution to structural change. Instead, industrial policy during this period was detrimental to structural change because it disproportionately favoured 'national champions' in the commodity sector, thereby reinforcing the existing productive structure, instead of transforming it (Almeida 2009; Tautz et al. 2010; Carrillo 2014; Milanez and Santos 2015). Thus, unlike the first one, the second hypothesis calls into question the nature of contemporary industrial policy in Brazil. Moreover, owing to the importance of industrial policy as an example of neo-developmental policies to the literature on Brazil's liberal neo-developmentalism (see Ban 2013; and Nassif and Feijó 2013), this hypothesis also raises some doubts about the nature of the transformations that occurred in the Brazilian political economy after the election of Lula and the rejection of the Washington Consensus.

The important position of Brazil both in the literature on the weakening of the Washington Consensus and in the literature on the recent revival of industrial policy warrants a closer scrutiny of this apparent paradox. Most of the research on this issue has centred around the unresolved debate over the sectoral distribution of the loans granted by the Brazilian Development Bank (BNDES) (see, e.g., Tautz et al. 2010; and Hochstetler and Montero 2013). Although very important, these studies are still insufficient to thoroughly test the two competing hypotheses mentioned above since industrial policy in Brazil during this period involved a series of different policy instruments and, therefore, cannot be reduced exclusively to BNDES loans (see, e.g., Salerno and Daher 2006; Cano and Silva 2010; and Coutinho et al. 2012).

Instead of focusing on the lending operations of the BNDES, the next chapter contributes to the academic debate on this apparent paradox by conducting a comparative analysis of the three industrial policy plans announced by the Lula and Rousseff governments between 2003 and 2014.

4. INDUSTRIAL POLICY IN BRAZIL AFTER THE WASHINGTON CONSENSUS

4.1. METHODOLOGY AND DATA

Structural change is, by definition, a long-term process. Accordingly, the effectiveness of industrial policy in fostering – or hampering – structural change can only be adequately assessed in the long term. Moreover, as pointed out by Rodrik (2004), because the effects of industrial policy interact with a multitude of uncontrollable variables, the analysis of industrial policy should focus more on the policy process than on its outcomes. Thus, while Döring, Santos and Pocher (2017) claim that more sectoral analyses are required to understand the impacts of neo-developmentalism on the Brazilian economy, the question of whether industrial policy contributed or not to reinforce the tendencies towards deindustrialisation and re-primarisation is fraught with methodological difficulties, since empirical outcomes cannot be easily attributed to the implemented industrial policy measures. In fact, the question of whether the empirical coexistence of industrial policy and industrial development provides evidence of a causal link between the former and the latter is a major point of contention in debates over the effectiveness of industrial policy (Chang 2011).

Nevertheless, the concomitance of the neo-developmental turn to industrial policy and the intensification of the reversal of the process of structural change in Brazil constitutes an unexpected contrast, especially from a structuralist/neo-developmental perspective, and therefore warrants further inquiry. In this sense, it is imperative to consider the interaction between industrial policy and structural change between 2003 and 2014 to gain a more nuanced understanding of the nature of the transformations that occurred in the Brazilian political economy after the Washington Consensus. In particular, the analysis in this chapter addresses the three research questions that motivate this dissertation (see Section 1.2):

1) To what extent did the industrial policy plans announced by the Brazilian governments between 2003 and 2014 reveal a concern about deindustrialisation and re-primarisation?
2) In what ways did continuity and change across these industrial policy plans reflect the evolution of the economic context faced by the Brazilian governments?

3) To what extent do these industrial policy plans validate the representation of the Brazilian policy regime during this period as a hybrid combination of liberal and neo-developmental policies in which the revival of industrial policy typifies the latter?

Hence, the next three sections of this chapter perform a comparative analysis of the three industrial policy plans (PITCE, PDP, and PBM) to trace the existence of a concern at the evidence of deindustrialisation and re-primarisation, as well as possible inflection points in this concern over time, by drawing upon the policy documents that introduced each of these plans. The analysis of the content of policy documents as a research methodology has been applied in studies of the practice of industrial policy before. For instance, Chang (1996) carries out a policy document analysis as part of his comprehensive study of industrial policy in South Korea in order to identify the major themes that concerned policymakers.

Compared to other qualitative research methods such as interviewing, document analysis is praised for the lack of reactivity of documents as sources of data during the research process and for the possibility of tracing continuity and change between different documents or different versions of the same document (Bowen 2009). Moreover, to the extent that the selected policy documents are considered representative of the industrial policy plans under study, then the analysis of the content of these documents constitutes the most accurate method of identifying the revealed concerns of the industrial policy plans. In this light, however, it should be emphasised that the proposed analysis is limited in its scope to the *ex-ante*, revealed intentions and concerns of the announced industrial policy plans. Hence, it does not consider the *ex-post* effects of the implemented measures, whose analysis, as argued above, entails considerable methodological difficulties.

The selected policy documents were retrieved from the website of the Brazilian Industrial Development Agency (ABDI), where they are publicly available. These are: for the PITCE (2004-2007), *'Diretrizes de Política Industrial, Tecnológica e de Comércio Exterior'* (Brazil 2003); for the PDP (2008-2010), *'Política de Desenvolvimento Produtivo: Inovar e investir para sustentar o crescimento'* (Brazil 2008); and for the PBM (2011-2014), *'Brasil Maior: Inovar para competir. Competir para crescer. Plano 2011/2014: Texto de referência'* (Brazil 2011), as well as its more detailed draft version, which is also publicly available in the ABDI website: *'Contribuições para a Política de Desenvolvimento Industrial, de Inovação e de Comércio Exterior: Período 2011/2014'* (ABDI 2011). In addition to the document analysis, a literature review of relevant secondary sources was carried out, covering works both in English and in Portuguese, published in academic journals and books, as well as in the publication series of the ABDI and the Brazilian Institute for Applied Economic Research (Ipea).

Thus, the following three sections present the findings from the analysis of each of these three industrial policy plans. Then, the final section of this chapter provides an interpretation and discussion of the main findings in the light of the literature on state-business relations in Brazil and the ongoing political transformations in natural resource-rich Latin American countries.

4.2. INDUSTRIAL, TECHNOLOGICAL AND FOREIGN TRADE POLICY (PITCE)

The PITCE, the industrial policy plan for the period 2004-2007, marked the return of industrial policy to the political agenda in Brazil and signalled that national authorities had overcome the ideological bias against industrial policy that prevailed during the Washington Consensus period (Suzigan and Furtado 2006). Considering that "[i]ndustrial policy is first of all an attitude, and only then a matter of technique" (Johnson 1984:74), this greater acceptance of industrial policy among Brazilian policymakers is not insignificant. In fact, according to Peres (2011), the PITCE constitutes the best example of the return of industrial policy to Latin America after the widespread rejection of the tenets of the Washington Consensus across the region.

The currency crisis of the late 1990s, which exposed the external vulnerabilities of the Brazilian economy, and the financial turbulence that accompanied the 2002 Presidential campaign set the macroeconomic context for the PITCE (Kupfer, Ferraz and Marques 2013). The policy document that introduced this industrial policy plan, *"Diretrizes de Política Industrial, Tecnológica e de Comércio Exterior"* (henceforth, *"Diretrizes"*), dated 26 November 2003, recognises that, while Brazil had made progress in stabilising the main macroeconomic variables, this alone would be insufficient to overcome the imbalances facing the Brazilian economy. In particular, the document laments that during the 1990s Brazil failed to expand its export base and that its exports grew below world average. Thus, it argues that the establishment of a new development trajectory would require public policies to enhance productive efficiency and increase the rate of investment (Brazil 2003).

According to the *"Diretrizes"* document, the ultimate goal of the PITCE in the long term was to develop key activities that increased the international competitiveness of the Brazilian economy by paving the way for its insertion into the most dynamic sectors of international trade. In fact, it is asserted that the pursuit of a new international insertion for the Brazilian economy should guide economic policy and diplomatic action alike (Brazil 2003). In the short term, the goal of the PITCE was to reduce the balance of payments constraints associated with the external imbalances of the Brazilian economy (Brazil 2003). The achievement of these two goals was linked to four instrumental objectives: *i)* increasing the innovation capacity of Brazilian firms, *ii)* enhancing productive efficiency through the attainment of scale economies, *iii)* expanding and upgrading exports, and *iv)* contributing to regional development by strengthening local clusters and value chains (Brazil 2003).

In line with the Latin American structuralist tradition, the *"Diretrizes"* document claims that the industrial sector is essential for a process of sustained economic development and, despite not referring to the issue of deindustrialisation explicitly, it reveals a deep concern about the excessive primarisation of Brazilian exports (Brazil 2003; De Toni 2016). The document notes that, while Brazil exports to a variety of countries, its exports are dominated by products whose external demand is not very dynamic, which have low technological content, and that suffer from considerable price volatility. This is problematic because, the *"Diretrizes"* document argues, the medium/long-term external balance of the Brazilian economy depends upon its productive structure keeping apace with the development of more dynamic, knowledge-intensive sectors around the world (Brazil 2003).

Hence, the *"Diretrizes"* document justifies the need for an active industrial policy on the grounds that the skills and capabilities required for a new international insertion of the Brazilian economy would not develop in the absence of state intervention. Three interrelated arguments, associated with neo-Schumpeterian contributions to the academic literature on industrial policy (see Section 2.2), are advanced to support this claim. First, the document acknowledges the tacit dimension of knowledge by arguing that complex technologies cannot be bought off the shelf as if they were just a commodity. Second, it draws attention to the importance of the systemic interactions between institutions, firms, education systems, and research centres that underlie the creation and dissemination of knowledge. Third, it highlights that learning, capacity-building, and innovation are lengthy and fundamentally uncertain processes and, in that sense, they are more likely to be economically viable if supported by the state. Moreover, the document argues that differences between sectors in terms of their potential to generate innovation warrant differentiated sectoral policies (Brazil 2003), thereby emphasising the selective nature of industrial policy.

Yet, as a comprehensive industrial policy plan, the PITCE included both vertical actions (sectoral targeting), named 'strategic options', and horizontal actions (Brazil 2003; De Toni 2016). The *"Diretrizes"* document also underscores the importance of developing 'activities of the future', such as biotechnology and nanotechnology. This is considered the third axis of the policy by some authors (e.g. Cano and Silva 2010; and Kupfer, Ferraz and

Marques 2013), in addition to the vertical and horizontal axes, although it is not explicitly recognised as such in the *"Diretrizes"* document. The common element to these (two or three) axes was the focus on innovation, which is widely considered the central theme of the PITCE (Suzigan and Furtado 2006; Almeida 2009; Cano and Silva 2010; De Toni 2016). In fact, as pointed out by Almeida (2009), owing to the great emphasis placed on innovation, the horizontal axis of the PITCE was lauded even by neoclassical critics of industrial policy, such as Canêdo-Pinheiro et al. (2007).

Broadly in line with the abovementioned instrumental objectives, the horizontal actions of the PITCE followed four guidelines: *i)* innovation and technological development, which explicitly emphasised the need to consolidate a national innovation system; *ii)* international insertion, which focused on the growth and diversification of exports; *iii)* industrial modernisation, including both industrial upgrading and industrial deepening; and *iv)* expansion of the productive capacity, since Brazilian firms were small by international standards and that was considered a hindrance to technological development and international competitiveness (Brazil 2003).

The 'strategic options' targeted four technologically sophisticated sectors: semiconductors, software, capital goods, and pharmaceuticals. The *"Diretrizes"* document justifies the selection of these sectors essentially on the grounds of their dynamism, innovation potential, and linkages with other sectors (Brazil 2003). Furthermore, these were sectors in which Brazil recorded significant trade deficits (Brazil 2003; Suzigan and Furtado 2006; Kupfer, Ferraz and Marques 2013; De Toni 2016), and thus typified the external imbalances of the Brazilian economy and the problem of excessive primarisation of the country's export basket that the PITCE set out to resolve.

Besides its horizontal and vertical dimensions, the role of the PITCE in the creation of a new institutional framework for industrial policy in Brazil is strongly emphasised in the literature (Suzigan and Furtado 2006; Cano and Silva 2010; Kupfer, Ferraz and Marques 2013; De Toni 2016). As argued in Section 2.2, there is a considerable consensus among scholars on the importance of the institutional environment for the effective implementation of industrial policy, and the abandonment of industrial policy during the Washington Consensus period had left an institutional void in Brazil that needed to be filled so that industrial policy could be re-established (Cano and Silva 2010; Kupfer, Ferraz and Marques 2013). However, although the need for a new institutional framework for the implementation of the policy was acknowledged, the *"Diretrizes"* document did not outline any proposals to this end (Brazil 2003).

The most significant institutional changes associated with the PITCE were the creation of the ABDI to monitor and provide technical assistance on the implementation of industrial policy, and of the National Industrial Development Council (CNDI), as an advisory board comprised of government ministers, the president of the BNDES, and employer and worker representatives (Suzigan and Furtado 2006; Kupfer, Ferraz and Marques 2013). The creation of these bodies was intended to improve policy coordination between different ministries and promote dialogue between the government and the main stakeholders of industrial policy (Suzigan and Furtado 2006; De Toni 2016).

Still, while the *"Diretrizes"* document was not specific about the institutional changes that should accompany the PITCE, it did not completely ignore the implementation side of industrial policy. It is explicitly stated that, in addition to permanent monitoring and assessment of the policy, the support provided to firms should be time-bound and tied to efficiency targets and other criteria, such as compliance with labour standards, so as to ensure its political legitimacy and avoid accusations of cronyism (Brazil 2003).

In sum, the return of industrial policy to Brazil with the PITCE was framed by an adverse macroeconomic context of external vulnerability, following the currency crisis of the late 1990s. Against this background, as revealed by the *"Diretrizes"* document, the PITCE was informed by a serious concern over the excessive primarisation of Brazilian exports, which, in line with Latin American structuralist thinking, was considered a significant impediment to the sustainability of Brazil's development trajectory and its medium/long-term external balance. This concern is evident not only in the stated long-term goal of the PITCE, which involved the pursuit of a new international insertion into the world economy, but also in the choice of technologically sophisticated sectors in which Brazil recorded significant trade deficits as its 'strategic options'.

4.3. PRODUCTIVE DEVELOPMENT POLICY (PDP)

After the re-election of Lula for a second presidential mandate, the PITCE was replaced by a new industrial policy plan for the 2008-2010 period, the PDP, which is outlined in the document *'Política de Desenvolvimento Produtivo: Inovar e investir para sustentar o crescimento'* (Brazil 2008). The PDP is considered not only more 'ambitious' than the PITCE (Coutinho et al. 2012), but also "the most advanced and ambitious industrial policy undertaken in the region [i.e. Latin America]" (Peres 2011:8). Thus, this plan represents the consolidation among Brazilian authorities of the 'industrial policy attitude' (Johnson 1984) that arose with the PITCE.

Nevertheless, despite this attitudinal continuity between the two plans, the context in which the PDP was devised differed significantly from the "hostile macroeconomic environment" that framed the PITCE (Kupfer, Ferraz and Marques 2013:329). On the external front, instead of vulnerability and balance of payments constraints, the context was one of abundance of foreign-exchange reserves. This resulted from the windfall export earnings generated by the commodity boom, as well as from the surge in capital inflows that were attracted by the profitability of the commodity sector and by the high domestic interest rates (Kupfer, Ferraz and Marques 2013). These external developments were accompanied by the continued growth of domestic demand which further propelled economic growth (Cano and Silva 2010). The favourable economic context of the period is noted by the PDP document which interprets it as a sign that, after three decades of low growth and frequent macroeconomic instability, the Brazilian economy was finally on the path to overcome both problems and embark on a sustained growth trajectory (Brazil 2008).

The announced primary goal of the PDP was to sustain the ongoing expansion cycle (Brazil 2008). It warrants emphasis, however, that this expansion cycle was to a significant extent driven by the exports of basic products, and not the sophisticated products targeted by the PITCE (Kupfer, Ferraz and Marques 2013). To this end, the PDP document identifies four challenges that needed to be addressed: *i)* expanding supply capacity to keep pace with the growth of domestic demand and thus avoid inflationary pressures, namely by maintaining investment growth above the growth rate of gross domestic product (GDP); *ii)* preserving a strong balance of payments by accelerating export growth in those sectors which have shown a good export performance (i.e. mostly primary products and resource-based manufactures in the context of the commodity boom), diversifying the export basket, and attracting foreign direct investment; *iii)* increasing the innovation capacity of Brazilian firms so as to increase domestic value added, enhance competitiveness, and strengthen the international insertion of the Brazilian economy; and *iv)* improving market access to micro and small enterprises to generate employment and ensure a more inclusive growth (Brazil 2008; Kupfer, Ferraz and Marques 2013).

Accordingly, four quantitative macro-targets were established to enable the monitoring and assessment of the effectiveness of the industrial policy in addressing the abovementioned challenges. The macro-targets to be reached by 2010 involved increasing *i)* the investment share of GDP from 17.6% to 21%, *ii)* private research and development (R&D) spending as a share of GDP from 0.51% to 0.65%, *iii)* Brazilian exports as a share of world trade from 1.18% to 1.25%, and *iv)* the number of exporting micro and small enterprises by 10% (Brazil 2008:19). The PDP document introduces these macro-targets as an explicit attempt to go beyond the PITCE in the aspects of policy monitoring and assessment (Brazil 2008). However, the short-term horizon of these targets (2008-2010), coinciding with the electoral cycle, was incompatible with the long-term character of industrial policy and structural change (Almeida 2009). Moreover, the chosen macro indicators overlooked the direction of the transformation of the country's productive structure. In particular, the choice of a general indicator for exports ignored the technological intensity and sophistication of those exports (Almeida 2009), thereby downplaying issues which constituted major concerns in the PITCE, such as the excessive primarisation of the Brazilian export basket and the concentration of trade deficits in higher-technology sectors.

The efforts of the PDP to achieve its objectives and macro-targets involved a combination of different policy instruments (credit, venture capital, tax incentives, procurement, regulation, and technical support) and were structured into three lines of action: horizontal/systemic actions, 'strategic choices', and vertical/sectoral programmes (Brazil 2008; Coutinho et al. 2012). The horizontal/systemic actions, which unlike in the PITCE did not follow specific guidelines, involved changes in the funding and lending operations of the BNDES and fiscal and administrative reforms, as well as efforts to better articulate industrial policy with other government programmes (Brazil 2008). The 'strategic choices' constituted a second level of horizontal action focused on specific themes deemed important for the country's productive development, such as clean production, exports, integration into Latin American (especially, Mercosur) and African value chains, micro and small enterprises, and regional development (Brazil 2008; Coutinho et al. 2012).

In terms of its vertical/sectoral programmes, instead of focusing on just four technologically intensive and sophisticated sectors like the PITCE, the PDP targeted virtually every sector of the Brazilian economy. Thus, the explicit targeting of sectoral priorities adopted in the PITCE was abandoned in the PDP (Coutinho et al. 2012; Delgado 2016). The PDP document provides four justifications for this broader sectoral coverage. First and foremost, it is argued, because technological change and the current dynamics of the world economy have rendered the lines between economic activities less clear, and thus the selection of priority sectors more problematic. Second, because one of the objectives of the plan was to increase the diversity and complexity of the Brazilian productive structure, instead of promoting specialisation in particular sectors. Third, because the PDP was to be understood as an open-ended industrial policy plan to which any specific sector could be added or removed depending on the specific challenges it faced at a particular moment. And, finally, because the availability of funds resulting from the favourable macroeconomic context significantly reduced constraints on the amount of support that industrial policy could provide (Brazil 2008; Coutinho et al. 2012).

In addition to the official justifications provided in the PDP document, Almeida (2009) outlines another hypothetical reason for the Brazilian government to opt for a broader sectoral approach in the PDP than it did in the PITCE: the need to increase the political legitimacy of the plan. In fact, one of the main criticisms levelled at the PITCE was that it ignored many sectors of the Brazilian economy, from agribusiness (Salerno and Daher 2006) to labour-intensive industries (Almeida 2009). In this sense, Almeida (2009) argues, the shift from the neo-Schumpeterian PITCE to the 'pragmatic' PDP represented an attempt to muster support from Brazil's diversified productive structure for the government's industrial policy.

The PDP's sectoral programmes were distributed across three categories, according to common competitive challenges faced by those sectors (Coutinho et al. 2012). First, the 'mobilising programmes in strategic areas', under the coordination of the Ministry of Science and Technology, focused on building up technological capabilities in sectors and activities where innovation is the crucial determinant of competitiveness, namely the health industry, information and communication technologies, nuclear energy, defence, nanotechnology, and biotechnology (Brazil 2008; Coutinho et al. 2012). Second, the 'programmes to strengthen competitiveness', coordinated by the Ministry of Development, Industry and Foreign Trade, targeted industries with potential to boost exports and to generate forward and backward linkages with other sectors of the economy. This category comprised a vast array of sectors, such as automobiles, shipbuilding, and capital goods, as well as agribusiness, footwear, wood and furniture, and the construction industry, among others (Brazil 2008; Kupfer, Ferraz and Marques 2013). Finally, the 'programmes to consolidate and expand leadership', coordinated by the BNDES, aimed to support long-term investments and the continued internationalisation of internationally competitive sectors of different technological intensities, from high-technology industries to resource-based manufactures and primary products: aircraft, steel, pulp and paper, mining, bioethanol, oil and gas, and meat production (Brazil 2008).

To sum up, while the PDP consolidates the industrial policy 'attitude' (Johnson 1984) that returned to Brazil with the PITCE, the two industrial policy plans differ markedly. In terms of context, instead of external vulnerability, the PDP was framed by the abundance of foreign-exchange reserves. Such a scenario was made possible precisely by the primarisation of the Brazilian export basket, which enabled the country to benefit disproportionately from the commodity boom. Furthermore, the concern at the regression of structural change is less pronounced in the PDP than in the PITCE. This is evident at three levels. First, in the fact that export diversification was presented as only one of the ways of achieving the objective of preserving the recently acquired strength of the balance of payments, along with the continued expansion of commodity exports and inward foreign direct investment. Second, in the choice for the exports macro-target of an indicator which is not sensitive to the technological intensity of exports. The choice of this indicator was consistent with the objective of exporting more, but signalled no intention of changing the composition of the Brazilian export basket. Third, in the much broader approach to the selection of sectors. Whereas in the PITCE the choice of sectors was limited to four technologically sophisticated sectors in which Brazil recorded high trade deficits, the PDP covered virtually every sector of the Brazilian economy, including low-technology manufactures, and the resource-based manufactures and primary products that characterise the relative position of Brazil in the world economy.

4.4. *BRASIL MAIOR* PLAN (PBM)

After the PITCE during the first Lula administration and the PDP during the second Lula administration, the PBM, publicly announced in August 2011, was the industrial policy plan for the first presidential term of Dilma Rousseff (2011-2014). The reference document that outlines this plan, *'Brasil Maior: Inovar para competir. Competir para crescer. Plano 2011/2014: Texto de referência'* (Brazil 2011), is the final version of a draft discussion paper, *'Contribuições para a Política de Desenvolvimento Industrial, de Inovação e de Comércio Exterior: Período 2011/2014'* (ABDI 2011), which provides more detail on the main concerns that underpinned the design of the PBM.

Despite the continuation of the commodity boom, the PBM was framed by a more unfavourable context than the PDP, characterised by industrial stagnation, declining international competitiveness, and growing debate over the deindustrialisation of the Brazilian economy (Almeida 2011; Schapiro 2013). The PBM reference document recognises the intensification of international competition both in the domestic market and in export markets as a significant adverse trend that needed to be addressed (Brazil 2011). Hence, the PBM attempted to invert the "hollowing out of several industrial value chains" caused by the rising imports of manufactures (Kupfer, Ferraz and Marques 2013:333). In addition to this external development, the PBM draft discussion paper reveals an explicit concern about the regression of structural change in Brazil, highlighting the rising shares of extractive industries and agriculture in the composition of GDP since the mid-1990s and the declining share of the capital goods industry in the composition of the total value added of the manufacturing sector since the early 1980s (ABDI 2011; Araújo 2016).

Against this background, the goal of the PBM, as stated in its reference document, was to facilitate the development of the required capabilities for a sustained, inclusive, and innovation-driven growth trajectory and thus contribute to a 'positive shift' in Brazil's relative position in the world economy (Brazil 2011). According to the draft discussion paper, the establishment of such a goal represented a deliberate rejection of the 'easy route' of 'business as usual', which consisted in passively reaping the short-term benefits of 'dependent growth' during the commodity boom, thereby perpetuating the relative position of Brazil in the world economy and its vulnerability to external shocks (ABDI 2011). In this sense, the concern over the primarisation of Brazilian exports was integral to the stated goal of the PBM. In order to achieve this goal, the PBM was structured around five main objectives: *i)* promoting innovation and technological development, *ii)* increasing competitive competences, *iii)* fostering industrial deepening, *iv)* expanding markets for Brazilian firms, and *v)* ensuring socially inclusive and environmentally sustainable growth (Brazil 2011).

Similarly to the two preceding industrial policy plans, the PBM contemplated both systemic and sectoral actions. The former covered a broad range of themes, namely foreign trade, investment, innovation, education, sustainable production, micro and small enterprises, regional development, consumer welfare, and labour conditions, and were articulated with other government programmes in some of these domains. These were aimed primarily at increasing productive efficiency and consolidating the Brazilian national innovation system (Brazil 2011). On the other hand, the sectoral prong of the PBM followed the logic of the PDP in covering virtually every sector of the Brazilian economy. However, unlike in the PDP, the sectors were grouped not by common competitive challenges, but according to their technical specificities and potential to transform the overall productive structure (Brazil 2011).

The targeted sectors were distributed across five blocks. The first block encompassed sectors which were considered highly capable of fostering structural change, owing to their capacity to generate forward and backward linkages and diffuse innovation throughout them: oil and gas, health, automotive, aerospace, capital goods, information and communication technologies, and defence. The second block included 'scale-intensive' sectors which represented a significant share of Brazil's exports of industrial products, namely chemicals, fertilisers, bioethanol, pulp and paper, mining, and steel. The third block consisted of labour-intensive sectors which generate the highest levels of employment in the Brazilian industry, where most micro, small and medium enterprises are concentrated, and which had been particularly affected by the stiffening international competition, such as plastics, textiles, footwear, furniture, cosmetics, toys, and the construction industry. The fourth block was dedicated exclusively to the agribusiness sector in its different segments, and the fifth block was comprised of commerce, logistics, and services (ABDI 2011; Brazil 2011; Kupfer, Ferraz and Marques 2013).

The specific sectoral programmes to be designed by public authorities in consultation with representatives from each sector should adhere to a set of general guidelines outlined in the PBM reference document. In line with recent contributions to the academic literature on industrial policy that adopt a value chain-perspective (see Section 2.2), these guidelines underscored the importance of developing new technological and business capabilities in areas such as product development to facilitate upgrading into more dynamic nodes of global value chains. In particular, this involved continuing the efforts of internationalisation of firms in the commodity sector to position them as lead firms of their respective global value chains, but also extending these internationalisation efforts to firms in 'scale-intensive' sectors with greater capacity for product differentiation (Brazil 2011).

Yet, in addition to the *global*, the guidelines for the sectoral programmes also devoted special attention to the potential of *local* value chains to increase domestic value added and, thus, to the challenge of promoting industrial deepening. Accordingly, one of these guidelines consisted in protecting and strengthening the local value chains that were most affected by import competition (Brazil 2011). Because of this, the PBM is considered a more protectionist industrial policy plan than the PITCE and the PDP (Peres 2011; Kupfer, Ferraz and Marques 2013). In fact, from a critical standpoint, Powell (2016) sees the PBM as part of a series of measures adopted by the Rousseff administration to protect domestic industries from Chinese competition, along with currency controls, antidumping actions, an increase in the tax on imported automobiles, and a reinterpretation of the land law. However, notwithstanding the concerns about import penetration and efforts to substitute imports, the PBM guidelines for the sectoral programmes were also export-oriented and explicitly recommended support for promoting medium and high-technology exports (Brazil 2011).

Besides the broad – or 'pragmatic' (Almeida 2009) – approach to sectoral targeting, the PBM also inherited from the PDP the establishment of macro-targets for monitoring and assessing the effectiveness of the plan in the attainment of its objectives. Furthermore, like in the PDP, these were short-term targets to be achieved by the conclusion of the plan in 2014, again coinciding with the end of the respective presidential term. Yet, in spite of these similarities, there were also significant differences between the macro-targets of the two industrial policy plans (Brazil 2011).

From the PDP to the PBM, the number of macro-targets increased from four to ten. From the four macro-targets of the PDP, only the target for the number of exporting micro and small enterprises was discontinued, whereas the targets for investment, private R&D spending, and exports were updated (Brazil 2011). Thus, although the PBM reference document, unlike the PDP document (Brazil 2008), explicitly mentions the objective of diversifying exports when outlining the macro-target for exports, the choice of the same generic export indicator – in this case, increasing the share of total Brazilian exports in world trade from 1.36% in 2010 to 1.6% in 2014 (Brazil 2011:37) – impedes the correct monitoring of such objective. On the other hand, the inclusion of a new macro-target for increasing the share of high and medium-high technology industries in the total industry value added by 1.4 percentage points (Brazil 2011:36) is indicative of a growing concern at the tendencies towards deindustrialisation and re-primarisation.

On the whole, in stark contrast to the favourable macroeconomic context that framed the PDP in 2008, the PBM was born out of a context in which, owing to industrial stagnation and the growing penetration of imports, concerns over the deindustrialisation of the Brazilian economy and the re-primarisation of the export basket were spreading across academic forums and the media (Schapiro 2013). Hence, the PBM revealed a greater concern over these tendencies than the PDP. This is particularly clear in its stated goal of contributing to a 'positive shift' in Brazil's position in the world economy (Brazil 2011) and the explicit refusal of the 'easy route' of leaving Brazil's position in the world economy unaltered so as to continue to benefit from the 'dependent growth' enabled by the commodity boom (ABDI 2011).

However, the PBM maintains the broad approach to sectoral targeting of the PDP, covering the whole structure of the Brazilian economy – even those sectors in which the gains from the commodity boom concentrated. Moreover, while the establishment of a macro-target to trace the share of high and medium-high industries in the total industry value added is also indicative of greater concern over the regression of structural change, the choice of the same generic indicator for the evolution of exports downplays the issue of export diversification. So, the PBM reveals some tensions between, on the one hand, its stated goal and objectives, as well as some macro-targets, which reflect a growing concern over deindustrialisation and (re-)primarisation and, on the other hand, the broad approach to sectoral selection and the use of some general macro-targets, which ignore these tendencies.

Table 1 briefly summarises the main findings from the preceding analysis about the extent to which a concern over the tendencies towards deindustrialisation and re-primarisation is revealed in different aspects of each industrial policy plan, as well as the changing economic context that framed these plans. The following section discusses these findings in the light of the literature on state-business relations in Brazil and the ongoing political transformations in natural resource-rich Latin American countries.

Table 1. Industrial policy plans and the revealed concern over deindustrialisation and re-primarisation

Plan	*Year*	*Context*	*Concern over deindustrialisation and re-primarisation*		
			Goal and objectives	*Sector selection*	*Targets*
PITCE	2003	External vulnerability following currency crisis	Evident	Evident	*[not applicable]*
PDP	2008	Commodity boom	Partial	Absent	Absent
PBM	2011	Commodity boom; Industrial stagnation and import penetration	Evident	Absent	Partial

Source: Author's elaboration.

4.5. BETWEEN DEVELOPMENTALISM AND EXTRACTIVISM

The analysis of the preceding sections shows that the concern at the continuous and mounting tendencies towards the deindustrialisation of the productive structure and the re-primarisation of the export basket in the industrial policy plans announced since 2003 in Brazil has been erratic. Comparing the three plans, this concern was more consistent and pronounced in the goal and objectives and the selected sectors of the 2003 PITCE. Notably, the first of the three plans and, therefore, the one that was announced when these tendencies were least entrenched in the Brazilian economy. However, the PITCE was announced in the aftermath of a balance of payments crisis that exposed the external vulnerability associated with Brazil's relative position in the global economy. In this sense, although less entrenched, the vulnerabilities deriving from these tendencies were more obvious in 2003 than in 2008 or 2011.

By contrast, the PDP and the PBM were framed by a context of foreign-exchange reserve abundance provided by the concomitant commodity boom. So, even as the Brazilian economy became more deindustrialised and increasingly dependent on the primary sector and resource-based manufactures for export earnings, these two industrial policy plans opted for a broader approach to both sector selection and target-setting. In addition to higher-technology sectors in which Brazil still had to develop competitive capabilities and labour-intensive industries that were being affected by growing import penetration, these two plans also announced support to those sectors which were at the time benefiting the most from the commodity boom and that were representative of Brazil's relative position in the global economy as a supplier of agricultural and mineral commodities.

Therefore, the industrial policy plans of Brazil during this period provide an intricate illustration of the emerging neo-developmentalism that followed the rejection of the Washington Consensus in the country (see Section 3.1). On the one hand, in line with the literature on neo-developmentalism (e.g. Bresser-Pereira 2011; and Khan 2011), these plans display a commitment to diversifying the productive structure towards more technologically-intensive and innovation-driven sectors. On the other hand, they are complacent about the country's growing dependence on commodity exports for foreign-exchange reserves – as evidenced, for instance, in the macro-targets for the evolution of exports in both the PDP and the PBM which are entirely compatible with the re-primarisation of the Brazilian export basket – and even pro-cyclically supportive of the sectors which captured the windfall gains from the commodity boom.

Hence, owing to its erratic concerns and internal tensions, the nature of Brazilian industrial policy between 2003 and 2014 cannot be fully grasped only by reference to the liberal/neo-developmental binary, as deployed by Ban (2013) and Nassif and Feijó (2013), where industrial policy typifies the neo-developmental side which, in turn, is countervailed by the liberal side, notably in monetary and exchange rate policies. Instead, Brazilian industrial policy during this period reflects the existence of another conflict in the Brazilian political economy besides that between the liberal strand and the neo-developmental strand. This is the conflict between neo-developmentalism and neo-extractivism.

Like the concept of 'neo-developmentalism', the term 'neo-extractivism' or 'new extractivism' has been applied to the development strategies pursued by Latin American governments since the turn of the century (Burchardt and Dietz 2014; North and Grinspun 2016). It describes a resource-dependent model of development in which more active state intervention, mainly in the domain of social policy, is funded by the exports of agricultural and mineral commodities (Burchardt and Dietz 2014; North and Grinspun 2016). Reviewing policies in different areas implemented by several Latin American governments that rejected the Washington Consensus, including the Brazilian government, North and Grinspun (2016) argue that these policies have been built upon the conflict between, on the one hand, the developmental attempt to diversify the productive structure and, on the other hand, the extractivist goal of expanding commodity exports so as to maximise the immediate gains from the commodity boom. The findings from the preceding analysis suggest that the same conflict is also evident in the specific case of Brazilian industrial policy, where the presence of neo-extractivist aims, alongside neo-developmental ones, translates into an erratic concern about deindustrialisation and re-primarisation.

Industrial policy is not immune to the "distribution of interests and relative power among different groups in a certain country" (Andreoni 2017:252). And, in this sense, the existence of a neo-extractivist side to these industrial policy plans is consistent with the literature on the historical and contemporary nature of state-business relations in Brazil. The Brazilian state has historically played a fundamental role in the creation and internationalisation of Brazilian 'big business' in the commodity sector (Amann 2009; Schneider 2009). Furthermore, the relationship between the state and local capital in these sectors continued during the 2000s via the BNDES as a lender and minority shareholder with the objective of promoting the expansion and internationalisation of 'national champions' (Kröger 2012; Musacchio and Lazzarini 2016) – an objective which is also reflected in the 'programmes to consolidate and expand leadership' of the PDP. According to Kröger (2012), continued state support for 'national champions' has contributed to exacerbating the existing concentration of power in certain local business elites, particularly in the commodity sector.

With regard to agribusiness in particular, Hopewell (2013, 2014) and Rothacher (2016) demonstrate that this sector holds considerable sway in Brazilian politics and has effectively influenced policy decisions during the presidencies of Lula and Rousseff. In addition to the close cooperation between agribusiness associations and the Ministry of Agriculture, the sector has also been well represented in government appointments and in the Brazilian Congress by a formally established cross-party group of over 200 congresspeople, the *Frente Parlamentar da Agropecuária*, whose aim is to further the interests of agribusiness (Hopewell 2013, 2014; Rothacher 2016).

Hopewell (2013) finds that Brazil's pro-free trade attitude at the WTO negotiations has been driven by the growing power of the agribusiness sector and its goal of expanding markets for agro-exports, which has outweighed the demands from domestic manufacturing for a more protectionist stance. Similarly, Rothacher (2016) interprets the hybrid combination of pro-free trade policies in agriculture and more protectionist policies towards the auto industry by the Brazilian government as a manifestation of the opposing interests of these two sectors regarding trade liberalisation. However, instead of a case of state capture by a powerful interest group, the relation between the Brazilian state and the domestic agribusiness sector is founded on common interests (Hopewell 2013). In a clear example of neo-extractivism, the Brazilian state and domestic agribusiness worked together towards the shared objective of increasing agro-exports, which, in the context of the commodity boom, became critically important for the accumulation of foreign-exchange reserves and, thus, for overcoming the historical external vulnerability of the Brazilian economy (Hopewell 2013).

In sum, the erratic concern over deindustrialisation and re-primarisation revealed in the industrial policy plans of the Lula and Rousseff presidencies cannot be explained exclusively by reference to the liberal/neo-developmental binary, but instead requires acknowledging the uneasy *modus vivendi* of neo-developmentalism and neo-extractivism in the Brazilian political economy after the Washington Consensus. The latter, in turn, cannot be separated from the historical relation between the Brazilian state and the powerful local capitalist class in the commodity sector, nor the favourable conditions provided by the recent commodity boom during the period when these industrial policy plans were devised.

Accordingly, in the 2003 PITCE, announced in the aftermath of a period of crisis and external vulnerability which brought to the fore the problems associated with the primarisation of Brazilian exports, the neo-developmental side prevailed. Then, by the time of the 2008 PDP, despite continued deindustrialisation and re-primarisation, the commodity boom had effectively transformed the primarisation of Brazilian exports from a source of external vulnerability into a source of foreign-exchange reserves abundance. Thus, the favourable external context for commodity exports extended the influence of the neo-extractivist side over this industrial policy plan and rendered visible the existence of two sides in the political economy of Brazilian industrial policy. Finally, the 2011 PBM was framed by a dual context characterised by, on the one hand, the continuation of the commodity boom, and, on the other hand, growing evidence of industrial stagnation in the face of increasing import penetration and declining international competitiveness. Therefore, while both sides continue to coexist as in the PDP, the tensions between neo-developmentalism and neo-extractivism become more evident in the goals and targets of the PBM.

5. CONCLUSION

In the context of the intellectual and political weakening of the Washington Consensus, a renewed interest in industrial policy has emerged among academics and policymakers alike. The contemporary debate on industrial policy, as reviewed in Section 2.2, exhibits four main features. First, the growing acceptance of industrial policy within neoclassical economics as a policy solution to 'market failures' (Rodrik 2004; Lin and Chang 2009; Felipe 2015; Chang and Andreoni 2016; Lin 2017). Second, the major focus on the importance of knowledge, learning, and innovation for economic development, which stems from combining Latin American structuralism with evolutionist/neo-Schumpeterian approaches (Lall 2004; Cimoli et al. 2009; Peres and Primi 2009; Lauridsen 2010; Chang and Andreoni 2016). Third, the greater attention to the implementation side of industrial policy and the necessary institutional arrangements to ensure its effectiveness and avoid rent-seeking (Rodrik 2004; Peres and Primi 2009; Lauridsen 2010; Naudé 2010; Warwick 2013). And, fourth, the acknowledgement of the new challenges faced by industrial policy in the context of generalised trade and financial liberalisation and the organisation of production into global production networks (Wade 2003; Lall 2004; Gereffi and Sturgeon 2013; Nixson 2015; Chang and Andreoni 2016; Kaplinsky and Morris 2016).

This dissertation contributes to the debates on the recent revival of industrial policy and on the weakening of the Washington Consensus by focusing on the case of Brazil during the two Lula governments and Rousseff's first presidential term (2003-2014). The political trajectory of Brazil during this period is portrayed in the literature as a partial and progressive shift away from the Washington Consensus and towards neo-developmentalism, which is typified by the revival of industrial policy (see Section 3.1). Nonetheless, instead of the diversification of the country's economy towards higher-technology industries, the revival of industrial policy in Brazil witnessed the continuation, and even acceleration, of the deindustrialisation of the domestic productive structure and the re-primarisation of the export basket (see Section 3.2).

A comparative analysis of the three industrial policy plans announced by the Brazilian governments during this period was performed to shed some light on the apparent paradox of the revival of industrial policy in Brazil. In particular, the analysis aimed to trace the existence of a concern at the evidence of deindustrialisation and re-primarisation across these industrial policy plans, including possible inflection points in this concern over time induced by the changing economic context, and to consider to what extent these plans validate the liberal/neo-developmental binary used to characterise the Brazilian policy regime after the Washington Consensus, most notably by Ban (2013) and Nassif and Feijó (2013).

The findings from the analysis suggest that the concern about the tendencies towards deindustrialisation and re-primarisation across the three industrial policy plans was erratic and very sensitive to the changing economic context faced by the Brazilian authorities throughout this period. Having been announced in the aftermath of a currency crisis, the 2003 PITCE was the industrial policy plan in which a concern over these tendencies, particularly the primarisation of exports, was more evident and consistent across its goals and selected sectors. By contrast, the 2008 PDP, framed by the abundance of foreign-exchange reserves generated by the commodity boom, introduced a broader approach to sector selection and target-setting which was much more complacent about these tendencies and the position of Brazil in the global economy as a supplier of agricultural and mineral commodities. Finally, the 2011 PBM faced the continuation of the commodity boom, on the one hand, but also growing evidence of industrial stagnation and declining competitiveness, on the other. So, while remaining closer to the PDP than to the PITCE, the PBM is characterised by greater internal tensions in how the concern over deindustrialisation and re-primarisation is revealed in its stated goal and objectives, but not in the broad approach to sectoral selection, and only partially in the choice of macro-targets.

Therefore, in the light of these findings, it is argued that the nature of Brazilian industrial policy between 2003 and 2014 cannot be thoroughly explained by the representation of the Brazilian policy regime as a liberal/neo-developmental binary where industrial policy typifies the neo-developmental side. So, although the 'liberal neo-developmentalism' hypothesis (Ban 2013) is helpful for illustrating the existence of both continuity and change in relation to the Washington Consensus paradigm since the election of Lula in 2002, here it is suggested that industrial policy during this period, instead of being purely neo-developmental, reflects the uneasy *modus vivendi* of neo-developmentalism and neo-extractivism in the Brazilian political economy.

The hypothesis advanced in this dissertation is consistent with the findings from other studies which report a strong neo-extractivist component in the development strategies pursued by Latin American governments during the commodity boom of the 2000s, as well as with the literature on the historical and contemporary nature of state-business relations in Brazil, especially the relation between the Brazilian state and the powerful local capitalist class in the commodity sector (see Section 4.5). Furthermore, this hypothesis portrays industrial policy, not as a merely technocratic solution to any given 'market failure', but as a political space where different powers, interests, and ideas compete. In this sense, it offers a dynamic and nondeterministic interpretation of the nature and possible effects of the revival of industrial policy in Brazil and elsewhere.

Further research is required to test and qualify the hypothesis advanced in this dissertation about the political economy of Brazilian industrial policy. In this sense, future work should investigate which actors were directly and indirectly involved in devising these industrial policy plans and how their interests and ideas were accommodated during the process, thereby shaping different parts of each plan. Furthermore, and in order to overcome the main methodological limitation of this dissertation – the exclusive focus on the *ex-ante*, revealed intentions and concerns of the announced industrial policy plans –, future work should also consider whether a similar pattern of conflict between neo-developmentalism and neo-extractivism during the commodity boom was reflected in the actual implementation of industrial policy across different sectors. Finally, additional case studies and cross-country comparisons are necessary for a better understanding of the ways in which the nature of industrial policy in agricultural and mineral commodity-exporting countries was transformed during the commodity boom before drawing any generalisations from the Brazilian experience.

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