The Chinese Catching-Up: A Developmentalist Approach[*]

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***Abstract*:** This article aims at understanding the process of Chinese catching-up from a developmentalist theoretical approach. For this purpose, it takes as its starting point the work of some classical authors who inaugurated the debate on the nature of economic development during the 1940s and 1950s—Arthur Lewis, Alexander Gerschenkron, Albert Hirschman, and Raul Prebisch—as a theoretical background aimed at analyzing some key features of China's multifaceted Chinese catching-up process. The main issues tackled in this article are as follows: structural economic duality and the inter-sectoral transference of labor, the role of the State as the main financing agent and development investor, and unbalanced growth and its linkages effects the challenge of governing and harmonizing the center-periphery relationship.

Keywords: China, economic development, state policies

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According to Karl Marx (1964, 7), "the country that is more developed industrially only shows, to the less developed, the image of its own future." In this sense, the process described as *catching-up* is the representation of a shift from a stage of underdevelopment to a stage of economic development, understood as a historical process of capital accumulation and productivity increase that allows per capita income growth and improved well-being among a country's population.[1] The essence of the process of economic development lies not only in the political will capable of mobilizing an entire society around a strategy of modernization and overcoming a situation of backwardness, but also in achieving a balance between State and market. In other words, it is the establishment of a national development strategy.

The scope and length of Chinese economic growth since 1980 clearly demonstrates an ongoing process of vigorous catching-up. This process has been perceptible at least since the 1990s, when four elements intertwined:

a) investments boomed, both in absolute terms and as a share of aggregate demand;
b) the country became an oil importer (1993), greatly altering the conditions of the international market of this commodity;
c) the urbanization process accelerated, followed by the launching of broad, visionary programs to enhance transport and communication linkages across China's immense territory, with the strategic goal of unifying and integrate the huge, continent-sized national market;

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[1] According to Celso Furtado (1964, 29, authors' translation), development is a "process of social change whereby a growing number of human needs—pre-existing or created by change itself—are satisfied through a differentiation in the productive system resulting from the introduction of technological innovations."

d) a gradual and incremental policy of economic opening-up was implemented, and a number of special economic zones was set up to promote capital inflows.

The mainstream view of Chinese development generally underscores openness to foreign capital and market deregulation as key enabling factors in the process, while criticizing other policies and institutions in China—among them the maintenance of a mostly public financial system, of state-owned enterprises in key sectors, and of comprehensive controls on capital flows, etc., which are seen as distracting the country from its path towards a free market economy. In reality, the Chinese experience is quite dissimilar from the set of liberal policies and reforms widely known as the Washington Consensus (Lo and Zhang 2011).[2]

This aim of this article is to contribute to a more adequate understanding of China's catching-up process, in the framework of a developmentalist theoretical approach apt to analyze the dynamics of China's economic transformations during the reform period that began in 1978. For this purpose, the article takes as its starting point the work of some leading scholars who inaugurated the debate on the nature of economic development (and underdevelopment) during the 1940s and 1950s (i.e., the "pioneering period" [Meier and Seers 1984]).

We focus on the contribution of four authors, that we selected due to the outstanding relevance of their analyses on late and peripheral development, and whose approaches we regard as complementary. Arthur Lewis' concept of *economic development with an unlimited supply of labor* readily applies to China's case, taking into account its huge rural population. Alexander Gerschenkron discusses the distinct historical specificities of late industrialization, where the financial system and the State play a fundamental role in the process of capital accumulation. Albert Hirschman analyzed *unbalanced development* and its implications in terms of inter-sectoral linkages, departing from the traditional view that posited a rigidly predetermined sequencing of clearly distinct subsequent stages. Raul Prebisch developed an innovative approach centered on the uneven *center-periphery* relationship. Actually, we will argue that China is probably the most egregious example in history of a country consciously and persistently pursuing a long-term development strategy in order to overcome its own peripheral condition. All four of these authors rejected the idea that economic development is a natural process to be achieved simply by passively obeying the stimuli stemming from market forces, seeking to understand the specific predicament of peripheral economies, where the dynamic transformational impetus must necessarily be ignited by the State.

This article aims to utilize these early theoretical contributions as a starting point for a comprehensive and multifaceted analysis of the Chinese catching-up process, focusing in particular on the following issues:

a) structural economic duality and the inter-sectoral transference of labor;
b) the role of the State as the main financing agent and development investor; unbalanced growth and its linkage effects
c) the challenge constituted by the center-periphery contradiction, that is a feature of most underdeveloped economies.

[2] For a critical assessment of the Washington Consensus, see, among others, Joseph Stiglitz (1999) and John Williamson (2000).

We maintain that such a "return to the classics of development," which, to the best of our knowledge, constitutes a novel analytical approach—provides a broad and integrated framework useful for the understanding of China's economic development.[3]

The article is organized as follows: "Growth and Catching-Up Engines" analyzes some of the key features of China's accumulation and growth dynamics, notably the evolution of the rate of investment, the role of exports, exchange rate management and financial policies. The subsequent section is the core of the article. It puts forward an interpretation of China's long-term development trajectory since the inception of the economic reforms in the late 1980s, on the basis of the fundamental contributions of the pioneers of the classical *developmentalist* approach. The conclusion summarizes the article's main arguments.

Growth and Catching-Up Engines

China's economic growth in the 1982–2017 period has been outstanding and historically unprecedented for any large country of comparable size: average real GDP growth was almost 10% per annum[4] (NBSC n.d.).

Therefore, China has experienced almost uninterrupted growth well above both developed and developing countries' averages for more than three decades (Figure 1). Since the beginning of economic reforms, a new dynamics of accumulation replaced the previous one that had pivoted on uneven relations between the countryside and the city and on a form of "balanced growth" model based on investment blocks, especially in the heavy industry sector.

In per capita terms, average growth rate was 8.8% per annum, leading to a 17-fold surge in PPP (i.e., per capita income measured in purchasing power parity terms) per capita income—from less than US$ 1000 in 1990 to almost US$ 17,000 This process was accompanied by a very high rate of investment, averaging 33.2% of GDP in 1982–2017 and approximately 44% in 2008–2017.

Until 1991, these investments were exclusively focused on the export sectors, with a high concentration in Guangdong. However, from the beginning of 1991, an increasing share of foreign direct investment (FDI) in the form of joint ventures has been directed to the construction and expansion of production capacity focused on the domestic market (Medeiros 1999, 97). FDI in China increased from US$ 1.3 billion in 1984 to US$ 243 billion in 2015 (World Bank n.d.).[5] Since 2013, China has also had the highest volume of foreign trade in the world, strongly affecting virtually all other national economies.

To incentivize FDI inflows, the central government implemented partial deregulation, preferential tax treatment—including lower corporate tax rates and tax bases for foreign investors (Li 2013)—and infrastructure development. Moreover, inter-provincial competition at the provincial level made some areas of the country particularly attractive for foreign multinationals. Especially since the turn of the century, FDI also played a very important role as a vehicle for technology acquisition. To accelerate this development, China has

[3] A partial exception is represented by the extensive literature discussing whether and when China has reached Arthur Lewis' turning point (see below, "The "Lewis Turning Point with Chinese Characteristics").

[4] GDP growth decelerated to some extent in the 2010s with respect to the previous three decades, averaging 7.2% p.a. in 2011–2017.

[5] China has also become a major exporter of capital through direct foreign investment: from US$ 0.8 billion in 1990 to US$ 175 billion in 2015.

encouraged joint ventures and foreign investment in high-tech manufacturing rather than low-wage assembly.[6]

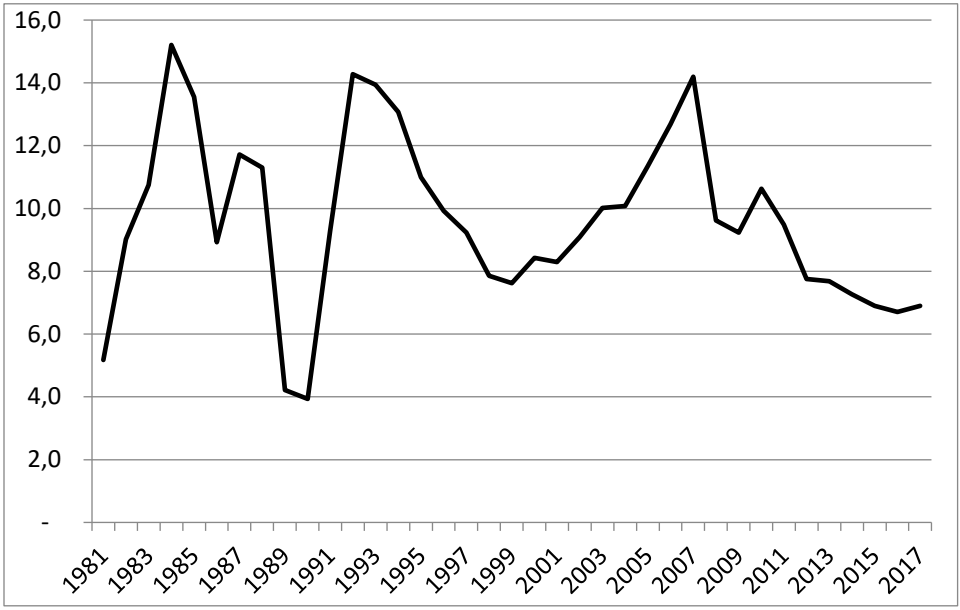

Figure 1: China: GDP Growth (%)
Source: NBSC (n.d.)

The surge of China's international influence and the leadership's pursuit of a sort of neo-mercantilist path can be seen in the evolution of China's trade structure composition, which in turn reflects the increasing complexity of its industry. In 1982, exports and imports were valued at US$ 23.6 billion and US$ 18.9 billion, respectively, whereas in 2017 those values increased to US$ 2.42 trillion and US$ 2.12 trillion (Figure 2). Until 1989, China exhibited trade deficits as a result of the stronger growth of imports (food, capital goods, etc.) than exports. Favored by a competitive exchange rate, exports began to grow faster after 1995; the growth of imports (which were subject to customs and non-tariff measures) was relatively lower, resulting in a vigorous import-substitution process. Subsequently, exports also began to become more diversified. China's foreign exchange reserves jumped from US$ 2.5 billion in 1980 to US$ 3.16 trillion in 2017 (World Bank n.d.).[7]

[6] According to Ellen McGrattan (2016, 2), "in 1990, the nation was a very minor contributor to global value added production, but by 2014 it had nearly caught up to the United States in this dimension, with each nation accounting for almost 30 percent of world high-technology manufacturing value added."

[7] China's foreign exchange reserves are by far the highest in the world, the result of both trade performance and FDI inflows.

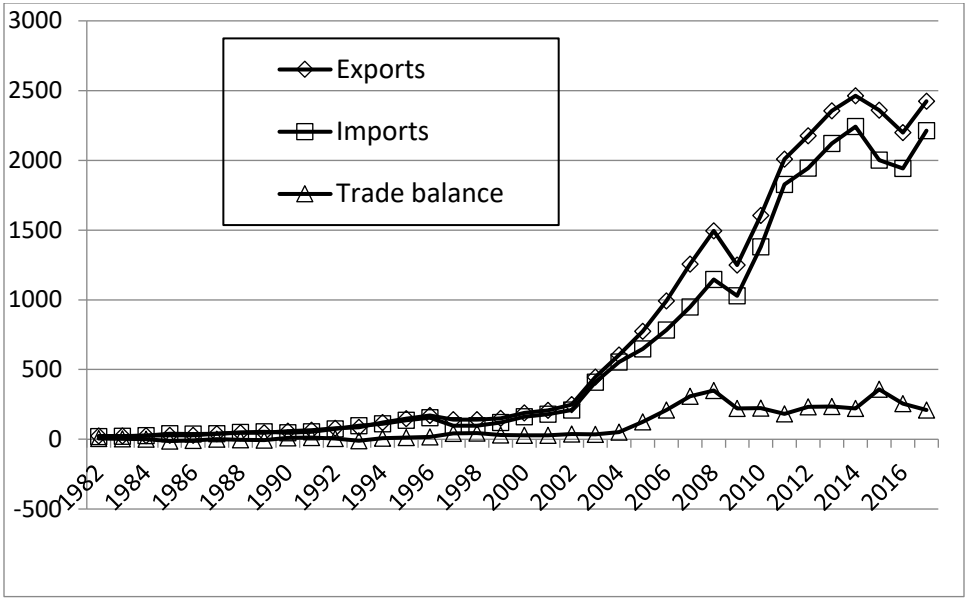

Figure 2: Trade Balance (US$ billion)

Source: The World Bank (n.d.)

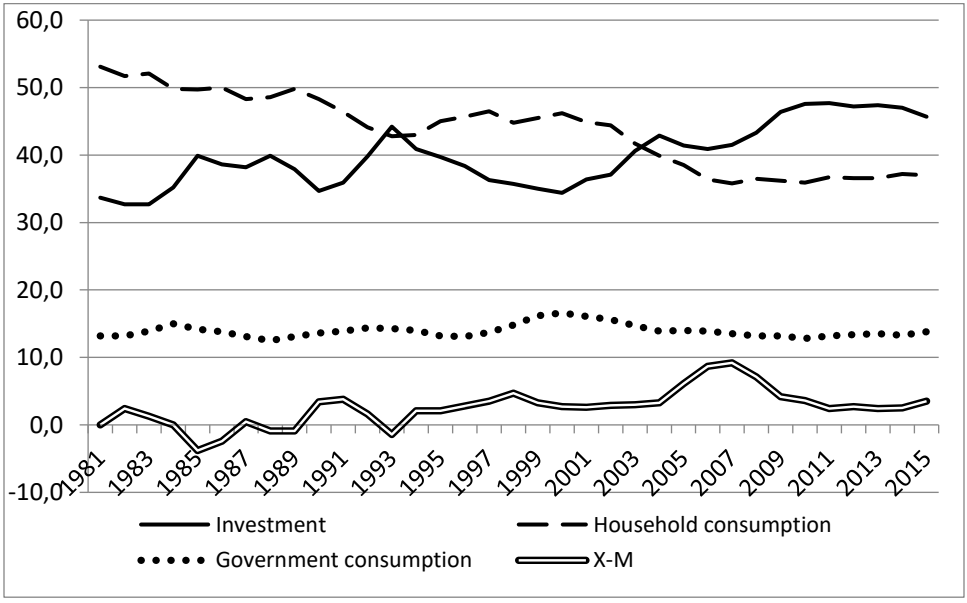

Figure 3. Investment, Household Consumption, Net Exports, and Government Expenditures: % of GDP (1981–2015)

Source: The World Bank (n.d.)

The first steps of China's economic reforms created conditions for active choices related to China's development strategy in the face of increasing global productive and financial integration. First, the experience of opening the Chinese economy to foreign capital has been gradual and incremental, with reforms first implemented as experiments in only a few localities and provinces and later implemented at the national level. Second, a pragmatic "growing out of the plan" (Naughton 2006) approach was inaugurated with the adoption of the so-called "contract of responsibility" between the peasant household and the State, which allowed farmers to sell their agricultural surplus, increasing both agricultural labor productivity and rural consumption. Third, the high rate of economic growth between 1978 and 1984 was accompanied by structural changes in China's consumption patterns, with a surge in demand of durables—such as televisions, refrigerators, watches, and washing machines—which pulled the booming domestic production, especially in the Townships and Village Enterprises (TVEs) sector (Singh 1993).

The prevalence of consumption over investment as an engine of growth began to change from the early 1990s, and notably in the 2000s, when a huge amount of infrastructure investment was launched to improve regional markets interconnectivity, acting also as a countercyclical device, especially after 2008 (Figure 3).[8] Government expenditures were maintained at a high and more or less stable level (between 13 and 17% of GDP), whereas net exports increased, peaking in 2006–2008. Since the early 1990s, the exports over GDP ratio increased sharply, reaching over 20% in 2000 (Lo 2016).

An important factor favoring the export boom and the increasing international integration of China in the world economy was the establishment of the Special Economic Zones (SEZ), that are areas in which foreign and domestic companies can trade and invest without the same control and regulations from Beijing as other parts of China. These areas were designed to encourage overseas investment in China.

China's exports grew at an extraordinary pace, especially since China's WTO accession in 2001—from US$ 23.6 billion in 1982 to US$ 147.2 billion in 1995, US$ 1.5 trillion in 2008 and US$ 2.4 trillion in 2017 (Figure 2). The exports/over GDP ratio rose from 5.9% in 1980 to 18.5% in 1994, and to 36.0% in 2006. It declined afterwards, falling to 19.7% in 2017 (World Bank n.d.).

A proactive exchange rate policy has been a key component of China's foreign trade and productive integration strategy. This policy choice followed an approach diametrically opposed to that advocated by mainstream orthodox economists, who routinely recommend to simply let the exchange rate adjust to "market forces and making the currency convertible for current account transactions" (Rodrik 2006, 3). Figure 4 shows the trend of the gradual devaluation of the exchange rate that began in 1982 and peaked in 1994. A pegged exchange rate policy (1 US$ = 8.3 RMB) was implemented in the 1995–2006 period, and the yuan became partially convertible.

The effective real exchange rate,[9] a relevant indicator of external competitiveness—underwent a marked real devaluation trend until 1994, followed by a partial revaluation in

[8] According to Dic Lo (2016, 242–243), " . . . Chinese economic transformation during the era of market reforms can be divided into two periods. In the first half of the era, from the late 1970s until the mid-1990s, economic growth was associated with a process of labor-intensive, consumption-led industrialization. Then, in the second half of the era, from the mid-1990s until the present time, a process of capital-deepening, investment-led industrialization has characterized economic growth."

[9] According to the International Monetary Fund (IMF n.d.), the effective real exchange rate "is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies)

1995–1998 (spurred by an increase in domestic inflation). Then, it remained more or less stable (at a strongly devalued level with respect to that the 1980s) until 2011, when a gradual trend of currency appreciation emerged. A shift from a pegged to a semi-fixed exchange rate regime (with a narrow band) began in 2005; a pegged exchange rate was re-established in July 2008, and in June 2010 a floating currency with a small band (i.e., a semi-fixed exchange rate) was introduced. Since the 2000s, Public Bank of China (PBC)'s intervention in the foreign exchange market has been made possible by the very high level of foreign reserves and the maintenance of a wide system of capital controls on both inflows and outflows, primarily through prohibitions and quantitative controls.[10]

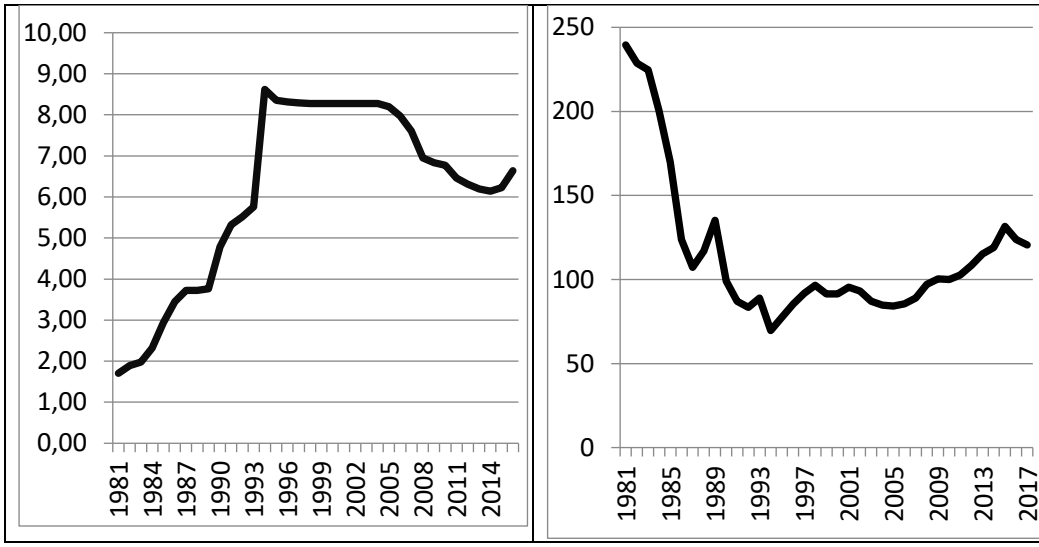

Figure 4. Nominal Exchange Rate (RMB/US$) and Effective Real Exchange Rate (2000 = 100)
Source: The World Bank (n.d.) and NBSC (n.d)

The process of structural change was accelerated because of both the growing trend of globalization of the world economy and the changes in Asia's domestic productive structures, directly benefiting China. This process also resulted from a national response to the challenge of development, based on the Chinese government strategy of shifting the exports of labor-intensive products to more capital-intensive products and using FDI as a way of building this productive capacity (Medeiros 2006, 387). In this context, exchange rate policies were well-coordinated with active industrial policies. Indeed, China has adopted a

divided by a price deflator or index of costs," that is, adjusting for inflation differentials with regard to the countries. An increase in the index indicates an appreciation, while a decrease indicates depreciation.

[10] The objectives of capital controls evolved over time, but generally have included the following: (a) helping channel external savings to desired uses, (b) keeping monetary policy independent of the influence of international developments in the context of a managed exchange rate regime, (c) preventing firms and financial institutions from taking excessive external risks: (iv) maintaining a balance of payments equilibrium and exchange rate stability, and (d) insulating the economy from foreign financial crises (Zhao 2005). See also, Ming Zhang (2012, 86), according to whom "The Chinese government has been very cautious to loosen the control of portfolio investment, let alone financial derivatives, because portfolio capital flow tends to be more volatile and speculative."

broad set of industrial policies since the implementation of the Special Economic Zones through strategies involving the mergers and acquisitions of state-owned firms, import substitution processes favored by a devalued exchange rate, purchases of technological packages, and broad incentives for the creation of global players.[11]

Other governmental initiatives and public policies that contributed to boost economic growth in China include;

a) The implementation since 2000 of the *China Western Development* plan, that included infrastructure development (transport, hydropower plants, energy, and telecommunications), enticement of foreign investment, increased efforts on ecological protection (such as reforestation), and a big boost to the expansion of education. The Western Development plan was followed by the launching of other development regional programs ("Go Northeast" and "The Rising of Central China").
b) In 2001, as a condition to accede World Trade Organization (WTO), China's had to cut duties on agricultural inputs from 20% to 10%. In order to avoid a devastating blow to farmers, the governments eliminated the taxes they traditionally had to pay to the state and promoted the modernization and mechanization of Chinese agriculture. Agricultural production increased quickly, and China become a food exporter.
c) In 1997, high-tech centers were established in middle-sized and big cities, with the goal to attract Research and Development departments and laboratories of high-tech foreign firms.
d) Investment in infrastructure reached new highs, in particular in times of downturn. For instance, the China Railway High-speed development initiative, originally conceived as a major part of the sixth national railway speedup, implemented since April 2007, led to an expansion of the high-speed railways network from 1,350 km in 2007 to 25,000 km in 2017, accounting for about two-thirds of the world's high-speed rail tracks in commercial service.
e) More recently, in 2015, China launched the "Made in China 2025" plan, with a view to comprehensively upgrade Chinese industry inspired by the German Industry 4.0. The plan that aims at promoting and disseminating smart manufacturing technologies and to increasingly applying the tools of information technology to production, with the objective of overcoming China's dependency on foreign technology at home.[12]

China's developmental strategy allowed its export structure to evolve toward higher value-added manufactured products such as electronics and machinery. China's exports of electronic products increased from US$ 19.4 billion in 1991 to US$ 83.8 billion in 1997 and to US$ 174 billion in 2002. Electronic exports also kept growing fast , reaching US$ 614 billion in 2008 and US$ 718 billion in 2014. Machinery exports increased more than

[11] On the industrial policies adopted by the country since the beginning of the economic reforms, see Sebastian Heilmann and Lea Shih (2013).

[12] According to Jost Wubbeke et al, (2016, 7), in order to achieve these goals, government entities at all levels funnel large amounts of money into China's industrial future, including CNY 20 billion (EUR 2.7 billion) to Advanced Manufacturing Fund and CNY 139 billion (EUR 19 billion) to National Integrated Circuit Fund (compared to only EUR 200 million of federal funding that the German government provided for research on Industry 4.0 technologies).

tenfold in ten years, from US$ 18.7 billion in 1997 to US$ 215 billion in 2008 and to US$ 318 billion in 2014 (OEC n.d).

Chinese Catching-Up in the Light of Contributions of Lewis, Gerschenkron, Hirschman and Prebisch

Following our analysis of variables that are central to the understanding of China's development process in China, in this section we will assess China's catching-up in light of the contributions of classical authors in the developmentalist tradition: Arthur Lewis, Alexander Gerschenkron, Albert Hirschman, and Raul Prebisch. Their early contributions can be utilized as powerful theoretical foundations to shed light on China's contemporary development trajectory.

The "Lewis Turning Point" with Chinese Characteristics

In 1954, W. Arthur Lewis (1915–1991), an acknowledged "development economist" and future winner of the Nobel Prize in Economics, published his most influential paper, "Economic Development with Unlimited Supplies of Labour." This work makes an original contribution grounded on the theoretical assumptions of classical economics, where the "capitalist sector" (particularly the manufacturing sector) initially expands without upwards wage variations thanks to the availability of an unlimited supply of labor released by the "subsistence sector" (subsistence agriculture and other low-productivity activities). The lack of wage increases allows for very high profits, which are reinvested in capital accumulation, leading to a fast production and employment expansion. According to Lewis,

> The price of labour, in these economies, is a wage at the subsistence level [. . .]. The supply of labour is therefore 'unlimited' so long as the supply of labour at this price exceeds the demand. In this situation, new industries can be created, or old industries expanded without, limit at the existing wage; or, to put it more exactly, shortage of labour is no limit to the creation of new sources of employment. (Lewis 1954, 141)

The point at which the subsistence sector's abundant labor force is wholly absorbed by the capitalist sector and wages in the capitalist sector begins to increase has been called the "Lewis turning point." The issue of whether or not China has reached such a point has been widely discussed. Indeed, recent events in China (for example, in 2002, 2004, and 2009) directly related to the emergence of labor shortages in industry, especially in export-oriented sectors, led many observers to predict the end of a historic period of accelerated economic growth favored both by the abundant availability of cheap labor,[13] and the exhaustion of the "duality" between the "modern" and "backward" sectors. Both sectors were reaching similar levels of development, and China was heading towards further urbanization and an expansion of the services sector similar to those seen in the more advanced capitalist countries.

However, the applicability of Lewis' theory to China's case is not a foregone conclusion. According to Nazrul Islam and Kazuhiko Yokota,

[13] According to Cai Feng and Wang Dewen (2005, 207), this factor accounted for 26.8% of economic growth in the 1982–2000 period.

> When it comes to China, the application of the Lewis model faces some additional difficulties arising from several of her specific institutional features, such as the (i) legacy of central planning, (ii) restrictions on rural-urban migration, (iii) frequent changes in the administrative jurisdiction of urban and rural counties, and (iv) establishment of modern industrial enterprises in rural areas in the form of Township and Village Enterprises (TVES). (Islam and Yokota 2008, 2)

China's urbanization rate—which stood at 54.8% in 2014—has kept increasing and is expected to reach 60% in 2020. However, its rate remains lower than that of the United States (82%), Germany (75%), France (80%), South Korea (82%), and Japan (93%) (World Bank n.d.). China's low unemployment rate (4.04%)[14] is an expression of conjunctural factors arising from the very process of growth and diversification, with increased employment in infrastructure, civil construction, and labor-intensive services, and is also related to the default alternative to which former migrant workers can still recur if they lose their urban job—to go back to agriculture[15] or to establish businesses in their villages. In China, the "industrial reserve army" is still mainly located in the villages, not in the periphery of major cities.[16] The *hukou system*[17] of internal migration, despite a continuous process of relaxation, has not yet been completely extinguished.

There is some evidence that China is next to the "Lewis turning point" with Chinese characteristics.[18] Andong Zhu and Wanhuan Cai (2012) point out that the turning point should be considered a *time period* rather than a *time point*, that is, a development trend or process during which supply decreases and the cost of labor increases. As we have seen, there are signs that this process has already begun in China. Indeed, the growth of China's economically active population declined from 11.5% in 1990 to 6.0% in 2000 and 1.5% in 2012, with a negative growth forecast (–0.2) in 2018 (Das and N'Diaye 2013, 5). Labor productivity grew 51.4% between 2008 and 2013, below wage growth. The average monthly wages of the non-private sector increased from US$ 125 in 2002 to US$ 351 in 2008,

[14] In the 2000s, the number of jobs generated has exceeded the annual goals set by the Chinese government. According to Raphael Lam, Xiaoguang Liu, and Alfred Schipke (2015, 5), "Newly created urban jobs reached 13.6 million in 2014, exceeding the official target of 10 million. New jobs reached 3.2 million in the first quarter of 2015, slightly lower than 2014, but still estimated to exceed the target this year. In fact, during the past decade, new jobs have always surpassed annual policy targets and with significant margins. Demand in urban labor markets has also outpaced supply since the global financial crisis across regions in China, suggesting some tightness in the labor market. Over the past few years, the official registered unemployment rate has been stable at about 4 percent." China's official unemployment rate is an urban unemployment rate. As most other countries, it does not take into account would-be workers who were never employed.

[15] Migrant workers do not automatically lose their quasi-ownership rights to land in their villages. However, in recent years, legislative liberalization and the favorable evolution of urban labor markets have induced many migrants to trade some or all of these rights.

[16] This trend partly explains the labor shortage in 2002, 2004, and (above all) 2009. The major investment stimulus unleashed after the international financial crisis (which was mainly concentrated in inland provinces) and the decrease in the supply of labor in the coastal areas where export-oriented companies are located have strengthened a certain tendency of workers to remain in the countryside. For a deeper analysis on this, see Xiao-bo Zhang, Jim Yang, and Shanglin Wang (2010).

[17] The Hukou system is an institutional framework created to control the internal migration instituted during the Mao regime, with the aim of discouraging rural residents' movement to the cities. Officially, it is forbidden to change housing in China, but since 1978, this system has been helping meet the demands of development and the labor market. This relaxation has been planned in a way that does not create a mass of tens of millions of landless workers.

[18] Yuan Zhang, Ting Shao, and Qi Dong's (2018) estimations using data from National Bureau of Statistics of China for 70,000 rural households found that China's economy reached the Lewis turning point in 2010.

reaching US$ 692 in 2013. Average wages of the private sector, in turn, increased from US$ 205 in 2008 to US$ 440 in 2013 (ILO n.d.). Therefore, the growth rate in wages from 2008–2013 was 198.2% and 214.6% in the non-private sector and the private sector, respectively.

The current and intense process of the geographic reallocation of the United States, Japanese, Korean, and European companies within the Asian economic space—from China to countries such as Vietnam, Bangladesh, and the Philippines—give force to the argument that China is reaching its "Lewis turning point." Because of the necessary mediations, particularly the continuing existence of a large number of migrant workers (150 million) with average wages below those of workers registered as residents of the urban region (between 20% and 60%, depending on the city), it is probable that this turning point could occur in the 2020s, potentially resulting in the consolidation of an even more consumer-oriented dynamic.

Gerschenkron in China: The State as the Main Financing Entity and Investor

Alexander Gerschenkron (1904–1978) stands out among the "classics of development" for the originality of his thought, that led him to refute a standard analytical approach assuming "general models" and/or "sequences of stages," focusing rather on the elements of specificity and differences that characterize each historical experience of latecomer industrial development.[19]

Gerschenkron discusses and questions the notion of "prerequisites to industrialization," arguing that it is impossible to have a general set of prerequisites that is always valid and can be extended to all countries. Indeed, some key enabling factors are not prerequisites, but evolve in a concomitant fashion as industrial development takes place.[20] The emphasis on the specificities and the "totality of the process" inherent in each case can be summarized in Gerschenkron (1962, 7) as follows:

> in a number of important historical instances industrialization processes, when launched at length in a backward country, showed considerable differences, as compare with more advanced countries, not only regard to the speed of development (the rate of industrial growth) but also with regard to the productive and organizational structures of industry which emerged from this those process. Furthermore, these differences in the speed and character of industrial development were to a considerable extent the result of application of institutional instruments for which there was little or no counterpart in an established industrial country. In addition, the intellectual climate within which industrialization proceeded its 'spirit' or 'ideology,' differed considerably among advanced and backward countries.

Different processes of industrialization can lead to a variety of forms and (above all) rhythms of industrial development. The political challenge of development involves

[19] According to Walt Whitman Rostow (1956), there are three so-called "stages of development": (1) a long period of a century or more during which the preconditions for take-off are established; (2) a period of 2 or 3 decades of takeoff; and (3) a prolonged period in which growth becomes normal and relatively automatic.

[20] Examples of "prerequisites" to industrialization can be stylized in the form of a broad unified territory, a legal system that ensures both individual and property rights, the accumulation of scientific knowledge, an increase in agricultural productivity, the availability of an integrated labor supply with various specialties, innovative business groups, etc.

overcoming the obstacles related to the financing of productive activities. For example, the process of English industrial development featured a certain gradualism, in which the standard scheme of capital accumulation financed by the financial system was replaced by *primitive accumulation* in the dual form both of colonization of foreign lands and the violent takeover of peasants' means of production. However, subsequent capitalist development required the creation of novel financial institutions, to make possible the rapid deployment of entire industrial plants and the unification of the national market via the transport system. The development of long-term financial institutions at an early stage distinguishes later industrialization processes—such as those of France, Germany, the United States, and Japan—from the English experience. Gerschenkron (1962) argues that public financial systems were essential to replacing the underdevelopment of private finance—something very close to that which is observed in China's development process.

The Chinese financial system, which is predominantly under state-owned control, is a key tool to smooth investment funding and plays a key role[21] to overcome major bottlenecks, allowing for cross-sectorial resource transfer that are crucial to address regional and inter-sectoral imbalances.

The institutional evolution of China's financial system has accompanied and even anticipated the demands of the economic reform process, including overcoming China's high degree of financial underdevelopment. The performance of China's financial system has often been criticized by orthodox economists. However, according to Dic Lo, Guicai Li, and Yingquan Jiang (2011, 268): "Seen in the light of the mainstream doctrines, certain important elements of the system might appear to be market imperfections, and might entail allocative inefficiency. But, from the perspective of the alternative theories, these elements could in fact be conducive to productive efficiency."

China has created a system of financing productive activity that is oriented toward structural transformation of the economy, which has proven itself to be very functional for China's development process.[22] Figure 5 shows that the private credit/GDP ratio was approximately 50–70% in 1977–1985, growing rapidly since then following the accelerated process of China's economic growth. By 1998, that ratio exceeded 100%, reaching 130% of GDP in 2012. Indeed, the Chinese financial system is "the backbone of the quantitative and qualitative dynamism of investment" (Cintra and Silva Filho 2015, 448, authors' translation), allowing for a rapid growth in credit supply, enabling finance investment in selected sectors and companies, regions, and infrastructure.

[21] John Maynard Keynes (1937) posited a circuit involving finance-investment-savings-funding, in which obtaining financing (liquidity) is the beginning of the capital formation process; saving is generated from investment decisions as a result of the income multiplier process; and ex post saving can be channeled into the financial market to consolidate investing firms' short-term debt. In this sense, a functional financial system is one that is capable of providing finance, enabling entrepreneurs to invest and earmarking savings to fund their debts later (funding), whether directly or indirectly. Rogerio Studart (1995, 284) defines the functionality of the financial system from a post-Keynesian perspective as follows: "a financial system is functional to the process of economic development when it expands the use of existing resources in the process of economic development with the minimum possible increase in financial fragility and other imbalances, that may halt the process of growth for purely financial reasons."

[22] For a comprehensive analysis of the functionality of the financial sector for economic development in China, see Leonardo Burlamaqui (2015).

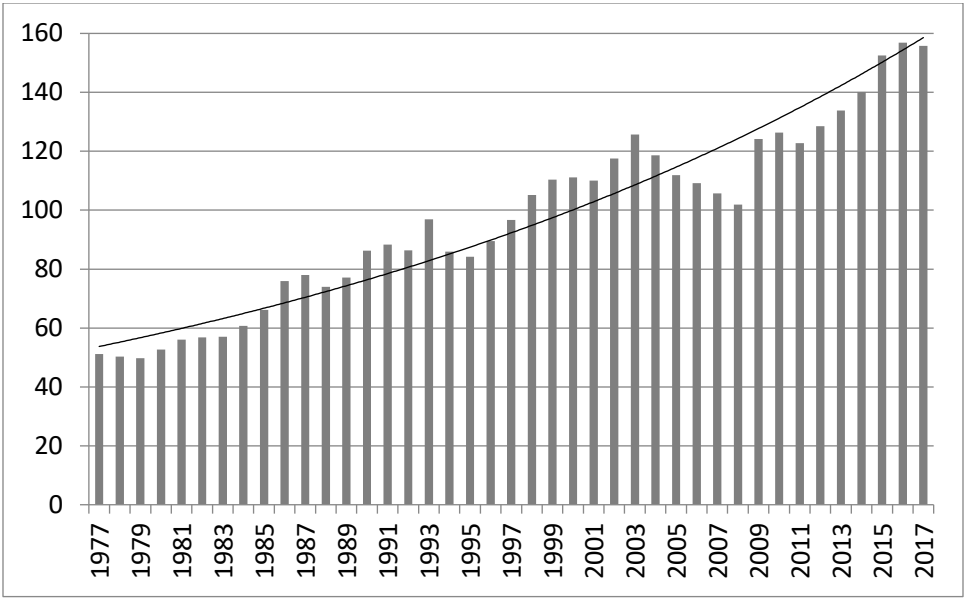

Figure 5. Domestic Credit to Private Sector (% of GDP)

Source: The World Bank (n.d.)

During the 1990s, China established some new institutions to regulate the financial system, such as the China Banking Regulatory Commission (CBRC), the China Securities Regulation Commission (CSRC), and the China Insurance Regulatory Commission (CIRC). Simultaneously, four large state-owned banks were formed over time (the so-called "Big Four")[23] along with a large number of national and regional banks emerging from various types of ownership meeting credit demand stemming concerning agriculture, urban construction, infrastructure, and international trade. There has also been a gradual development of China's capital market. The advance of urbanization—including the financing of major events such as the 2008 Olympic Games, development policies in Western China, and the central government and provinces' coordinated reaction to the 2008 crisis—required the ex-ante presence of large provincial and municipal banks. Simultaneously, there was an intensive process of mergers and acquisitions of small and medium-sized public enterprises in the 1990s and the emergence, in this context, of 149 state-owned conglomerates.

Over time, the Chinese financial system, seen as part of a complex set of development-oriented state institutions, has become one of the pillars of a national strategy in which the State has shown flexibility in cyclically changing its role. In this sense, the State has

[23] The "Big Four" Chinese banks are the Bank of China (BOC), the China Construction Bank (CCB), the Agricultural Bank of China (ABC), and the Industrial and Commercial Bank of China (ICBC). The Industrial and Commercial Bank of China (ICBC) is the largest bank in China by total assets, total employees and total customers. The Bank of China (BOC) specializes in foreign-exchange transactions and trade finance. The China Construction Bank (CCB) focuses on medium- to long-term credit for long-term specialized projects such as infrastructure projects and urban housing development. The Agriculture Bank of China (ABC) provides financing to China's agricultural sector and offers wholesale and retail banking services to farmers, township and village enterprises (TVEs) and other rural institutions. All four of these institutions are state-controlled banks with commercial banking operations.

transformed itself from a direct agent of "forced savings" to the manager of upper-level mechanisms in terms of investment coordination /socialization, as we will see below.

Hirschman and Unbalanced Growth: The Strategic Role of the State in China

China's transformation into the "World's Factory" was a long-term historical process marked by a sequence of events more closely resembling responses to different challenges posed by the dynamics of real economic life than the en bloc implementation of solutions to the problem of development. Examples of this transformation are numerous, from the gradual implementation of the Special Economic Zones (EZ), to the institutional evolution of the financial system, and the progressive phasing out of the internal migration control system known as the *Hukou System*.[24] The same gradualism can be noticed in the elaboration and execution of industrial policies and the establishment of new productive capacities in China.

Like Gerschenkron, Albert Hirschman (1915–2012) is one of the "founders" of a development approach that seeks to overcome notions based on "stages" and/or "equilibrium," as he points out in describing his experience in Colombia:

> A major battle I fought in Strategy was against the then widely alleged need for a 'balanced' or 'big push' industrialization effort; that is, against the idea that industrialization could be successful only if it were undertaken as a large-scale effort, carefully planned on many fronts simultaneously. To contradict this idea I pointed to the processes of industrialization that could in fact be observed in Colombia and other developing countries. Their entrepreneurs, domestic and foreign, had apparently hit upon a good number of sequential rather than simultaneous solutions to the problem of industrialization. . . . (Hirschman 1984, 96)

Hirschman's broad vision of economic planning incorporates the dialectical perception that the process of maintaining a "keep moving ahead" approach demands a development policy that involves "tensions, disproportions and disequilibria" (Hirschman 1958, 66). Development is seen as a process of jumps from one imbalance to another, with this contradiction providing its primary engine and these disequilibria providing the presupposition for its planning. From the point of view of the industrialization process, maximization of the input-output effects among different industrial sectors is an expression of the maximum utilization of the possibilities of the potential for linkages; the development of one sector ahead of the other would lead both to solving an ex-ante problem and to the emergence of another ex-post problem. Hirschman argues that by focusing investment on key industries, governments can stimulate the generation of bottlenecks in the activities that supply inputs to these industries. These bottlenecks in supply can create more profit opportunities for industries and thus induce private investment in these activities ("backward linkages"). Similarly, domestic production of a new product is likely to create opportunities for profit in derived industries, and thus to induce private investment in such industries ("forward linkages"). The presence of the State should be highly relevant to the form of the use of induction mechanisms and government investments in key industries, with a view toward (a) overcoming bottlenecks in the economy; and (b) creating investment

[24] See footnote 18.

opportunities and backward and forward linkages with the private sector (Hirschman 1958, 24).

The application of the "unbalanced growth hypothesis" in China may allow the exploration of a variety of fields, including the dynamics of State intervention and relations with the new private sector emerging after 1978.[25] The particular appropriateness of this approach is the very peculiarity of the Chinese case:

> the case of China also differs from that of the typical developing economy which Hirschman may have had in mind in that China, at the outset of economic reforms in 1978, had in place a balanced industrial base and the government was already strongly involved in the economy. This creates the opportunity for a unique application of the unbalanced growth hypothesis." (Holz 2010, 2)

New opportunities for taking advantage of the untapped potential of inter-industrial linkages in China have been re-appearing on several occasions: the reforms must be analyzed taking into account the State's frequent interventions to effect a process of strategic relocation of resources in the economy as a whole. Indeed, a dynamic process of reorganizing activities has allowed the state sector to maintain a strategic command of the linkage-enhancing process. The private sector has taken advantage of the profitable opportunities generated by unbalanced growth through the possibilities created by the state-owned corporations' "front-end investments" in key sectors, such as oil refining, chemistry, coal, and machinery and equipment.[26]

The advance of the private sector in China has been evident. As private property has been recognized, legitimized, and sustained by laws and regulations (Naughton 2006, 2), the expansion of the private sector's scope of activity also increased because of massive transfers of state assets to the private sector between 1994 and 2000, especially in small- and medium-sized state-owned enterprises. At the same time, 1,232 state-owned firms declared bankruptcy in 1995, 4,198 in 1998 and 5,429 in 2001 (Imai 2006, 5). Between 1998 and 2007, state-owned enterprises in China fell from 39.2% of total firms to 6.1% while the private sector increased from 6.5% to 52.6% in the same period.[27] However, the private sector advance had a counterpart in a process of increasing concentration, centralization, and prominence of the state's capital itself, engineered inter alia via mergers and acquisitions and joint ventures. According to Alberto Gabriele (2009, 17):

> State-owned and state-holding enterprises are now less numerous, but much larger, more capital- and knowledge-intensive, more productive and more profitable than in the late 1990s. Contrary to popular belief, especially since the mid-2000s, their performance in terms of efficiency and profitability compares favorably with that of private enterprises. The

[25] According to Barry Naughton (2007, 57–85), the Chinese development dynamics of economic pre-reforms can be understood as a "Big Push," a process suggested by Rosenstein-Rodan where state planning of the industrialization process on a large scale would make it possible to guarantee the balance of the process of change among several sectors, leading to a block transformation.

[26] According to Holz (2011, 3), "If linkage effects matter for economic growth, then [Albert] Hirschman's theory of unbalanced growth applied to a transition economy such as China implies that the government can maximize economy-wide growth if it continues to play an important role in sectors with high linkage effects in other sectors, and withdrawals from sectors with low linkage effects."

[27] In addition to the "pure" state and private sectors, a myriad of collective and mixed forms of property can be found in China.

> state-controlled sub-sector constituted by state-holding enterprises, in particular, with at its core the 149 large conglomerates managed by SASAC, is clearly the most advanced component of China's industry and the one where the bulk of in-house R&D activities take place.

A comparative analysis of state-owned and private enterprises shows that in 2007 labor productivity (measured by annual value-added per worker in RMB)[28] was 58.3 in state-owned enterprises (SOEs), 68.7 in state conglomerates, 88.0 in mixed capital companies with a majority of state participation, 48.1 in private companies, and 41.6 in joint venture firms (NBSC n.d).[29] The productivity differential between SOEs, TVEs, mixed capital companies, and so on, suggests the emergence of a "new model" in China, more focused on the development of the technological frontier, where SOEs are the most large-scale, capital-intensive, and technically advanced firms. According to Lo and Yu (2014, 320),

> a new model has emerged in recent years, in which the main vehicles of the development of frontier technology are the SOEs. The development of high-speed railway technology is a prominent case. The state plan to develop large-scale civilian aircraft manufacturing is also in line with this new model.

This strategy has been dubbed *guo jin min tui* strategy, where the state advances, whilst the private sector retreats. It requires, on the part of the State, a high degree of capacity to act as the managerial nucleus of "socialization of investment" policies. SASAC (State-Owned Assets Supervision and Administration Commission) was created to represent the interests of the State and its actions in the largest Chinese state-owned companies. These companies were formed throughout a long process of centralization and concentration in the state sector, especially in areas related to basic industries, energy, transportation, communications, construction, and national defense.

Prebisch and How China has Overcome the Uneven Center-Periphery Relationship

China's catching-up effort has successfully engineered a deep structural transformation that has had strong effects, spreading throughout the whole industrial structure all over its vast national territory. The rapid expansion of China's domestic market, along with the country's transformation into a commercial and financial power is a novel phenomenon, the understanding of which requires a major overhaul of the conventional approach to the analysis of uneven development. In this respect, Raul Prebisch's[30] 1949–1950 argument on the diffusion of technical progress under the center-periphery relationship and the uneven spread of its gains among nations constitute an essential theoretical tool to interpret China's catching-up and its effects on the rest of world. According to Prebisch,

> In economics, ideologies usually tend either to lag behind events or to outlive them. It is true that the reasoning on the economic advantages of the international division of labor is theoretically sound, but it is usually

[28] 10,000 yuan per unit.

[29] The relationship between labor productivity and R&D is paramount. China's evolution in this area is impressive: according to the World Intellectual Property Indicators (WIPI) annual report, worldwide patent registration grew by 4.5% between 2013 and 2014; in the same period, growth in China was 12.5%.

[30] Raul Prebisch (1901–1986) acted for a long time (1949–1963) as executive secretary of the Economic Commission for Latin America and the Caribbean (ECLAC).

> forgotten that it is based upon an assumption which has been conclusively proved false by facts. According to this assumption, the benefits of technical progress tend to be distributed alike over the whole community, either by the lowering of prices or the corresponding raising of incomes. The countries producing raw materials obtain their share of these benefits through international exchange, and therefore have no need to industrialize. (Prebisch 1950, 1)

The fallacy mentioned by Prebisch is made evident by the stylized fact that central countries not only strive (usually successfully) to fully retain the fruit of the technical progress of their own industries, but also to take advantage of the modest technological progress occurring in the periphery, due to a secular deterioration trend in the terms of trade of primary commodities exporters.

The structure of international trade generates a structural heterogeneity between the peripheral countries (where the levels of productivity of different sectors diverge sharply) and the central industrialized powers, who are endowed with a far more homogenous productive structure.

Therefore, the specificity of underdevelopment is rooted in the fact that—the peripheral economies are stuck with a dual productive structure, with exporting sectors (and those related to them) exhibiting a relatively high productivity but coexisting with backward sectors with very low productivity, whereas the center economies, which produce manufacturing goods, are diversified and technologically homogeneous. To escape the vicious cycle of peripheral underdevelopment major changes at two levels are needed:

"...overcoming the basic asymmetries of the international system requires not only change in the international economic structure, but also an effort to transform the structures of the peripheral countries themselves." (Ocampo 2001, 24)

In what became known as the Latin American structuralist approach, the industrialization process was seen as a way to overcome global asymmetries at the international level, inducing a structural change that increases productivity while reversing the trend of deterioration in the terms of trade. The role of the State and economic planning prioritizing import-substitution lies at the core of structural change.[31] However, it should also be noted that Prebisch subsequently advocated a "mixed model" of growth, one that combined import substitution with the promotion of new export-oriented industries. Export reorientation should play the double role of providing the industrialization process with greater allocative efficiency and reducing external constraints to growth[32] (Rodriguez 2006).

To apply the structuralist approach to the case of China, several adjustments are needed, as China's reality is different from that of Latin America. The firm political

[31] Import substitution industrialization (ISI) is a dynamic process induced by some sort of protection to the domestic market, so that the coefficient of imports rises instead of falling in the initial period due to increased imports of intermediate and capital goods. External deficit is thus both the original stimulus for import substitution activities and a barrier to the continuity of the industrialization process, as it increases the needs for imports of capital and intermediary goods For more information about this issue, see Octavio Rodriguez (2006).

[32] Prebisch-Thirlwall's thesis argues that the low-income elasticity of the low value-added products exported by developing countries, compared to the higher income elasticity of imports produced by developed countries, generates structural deficits in the balance of payments of the former. These increasing deficits can result in a significant obstacle to economic growth in developing countries, since maintaining a non-explosive current account deficit requires the domestic growth rate to be kept below the world growth rate (see Thirlwall 2002).

willingness to overcome the dictates of uneven development among nations was originally unleashed by the 1949 Revolution, not by the economic reforms that began in 1978.[33] From the structural change point of view, unlike Latin American experiences, the foundations for the post-1978 catching-up were laid under the "Revolutionary State" founded in 1949, as the latter made it possible to achieve three key goals:

1. political unity, full control of the national territory and—unlike Japan, South Korea, and Taiwan—a large margin of maneuver to implement for its own strategies without interference from foreign powers;
2. the building up of a solid and diversified industrial base;
3. the creation of a vast network of small and medium-sized production units scattered throughout the country, which would largely be converted into TVEs;
4. the establishment of strong economic planning institutions.

Since 1978, China gradually opened its economy and progressively changed its development path. However, it could have not done so in the way that it did without the basic industrial foundations previously created under a strongly inward-looking, largely anti-market development strategy in the 1949–1978 period. Eventually, an internal consensus emerged in China's leadership on a key strategic issue: the ultimate goals of the "Revolutionary State" could only be achieved by reforming the domestic economic structure and opening up to foreign investment. In this respect, structural change, industrial diversification, international insertion strategy, import substitution, and stimulating manufacturing exports are Prebisch's precepts that are perfectly applicable to the recent Chinese development process.

The Prebischian dynamics adapted to Chinese conditions emerge in a particularly clear fashion in the development of TVEs.[34] Officially recognized since 1984, the TVE sector achieved phenomenal growth rates and rapid diversification. By the end of the 1990s, TVEs accounted for 40% of China's industrial production (Masiero 2006, 432) and 27% of its exports (Kang 2006, 137). In 1989, exports of textiles and footwear by TVEs corresponded to 47.7% of exports of these products, decreasing to 29.1% in 2002, and 23% in 2007. The share of durable consumer goods exports increased from 14.4% in 1989 to 29.1% in 2002 and 30.3% in 2007. The exceptional success of TVEs in the 1980s and 1990s, provides a paradigm of the relationship between China's industrial policies and its international insertion strategy.

The prominence achieved by exports in the reform period was key for reining in the tendency toward the deterioration of the terms of trade. China gradually moved from producing lower value-added manufactures to higher value-added goods (such as electrical and electronic equipment, machines, nuclear reactors, prefabricated buildings, optical and

[33] China's economic reforms synthesize a fusion between the Revolutionary State founded in 1949 and the Developmental State. According to Manuel Castells, "China's economic development and technological modernization, within the framework of the new global economy, were (are) pursued by the Chinese communist leadership both an indispensable tool for national power, and as a new main legitimacy of the Communist Party. In this sense, Chinese communism in the early twenty-first century represents the historical merger of the developmental state and the revolutionary state" (Castells 2001, 317).

[34] One of the fundamental characteristics of the recent Chinese development process is in the rural character of the large expanded manufacture in the 1980s. The increases in income and productivity of agricultural labor resulted in a leftover of surplus labor in the TVEs.

medical-surgical apparatus, automobiles, and tractors). Proactive exchange rate policies aimed at enhancing international competitiveness, active industrial policies, and the existence of an unlimited supply of low-cost labor were particularly crucial to get this process started.[35]

China was able to overcome both the internal political avalanches of the late 1980s and the vicissitudes of an era marked by the predominance of neoliberal conceptions in the economy, building institutions that consolidated the country's core strategic options and overcoming "uneven development" and the tendency towards terms of trade deterioration. The "powerful socialist state"[36] pursued the nurturing of huge state-owned business conglomerates, and the consolidation of a strong public financing system, and did not dispense with capital flow controls. The State was thereby put in a position to isolate monetary policy from external capital flows, increasing the policy space for the adoption of more autonomous economic policies relatively independent from international financial vagaries. A mix of flexible monetary, fiscal, industrial, and sectoral policies, along with continuous cycles of import substitution upgrading, shaped China's transformation into the "factory of the world." As shown in the section "Growth and Catching Catching-Up Engines", China combined an import-substitution industrialization strategy with a strategy to promote manufacturing exports.

Given China's size and population and the transformation of its economic power into a political force, it was not long before initiatives emerged to form new international institutions, among them the New Development Bank, which arose out of the 2014 BRICS summit (Brazil, Russia, India, China and South Africa).[37] If Prebisch's strategy was subverted in Latin America in favor of financial integration, China can be seen as the full realization of his intuition on the centrality of a strong national strategy as a tool to overcome peripheral underdevelopment.

Conclusions

Analyzing an economy in the process of development is very different from studying a country in a state of stagnation. With respect to the latter, a range of possibilities and speculations open up, shedding light on new possible paths to achieve sustainable development.

Especially in the case of developing countries, a historically-grounded and comparative analytical approach is particularly fruitful.

In this context, a "return to the classics" becomes imperative to analyze the catching-up process. In our view, this return is necessary to identify essential elements of theoretical validation that enable researchers to more thoroughly understand China's development process. In this article we discuss the key mechanisms underpinning this process, on the basis

[35] Industrial policies are still at the core of China's development strategy. However, later on, with the consolidation of the country's international competitiveness, the role of exchange rate policies eventually became less important, and wages underwent a sustained rising path.

[36] The expression "powerful socialist state" is very common in the speeches of Chinese leaders, from Mao to Xi Jinping.

[37] It should be noted that Prebisch was broadly in favor of regional integration and multilateral agreements; he was the first Secretary-General of United Nations Conference on Trade and Development—UNCTAD during the period from 1963–69.

of a (and judiciously fine-tuned) revisiting of the contributions of some "developmentalist classics."

In contrast to a "stages of development" view of the Chinese growth process, the return to the classics provides us with a broad and integrated view of a historical process, in which the following elements are combined and intertwined:

1) The shift of the labor force from the backward sector to the modern sector, leading to a profound structural change in the Chinese economy;

2) Economic planning and the active role of the State, that assumes different roles throughout the development process;

3) The exploitation of "unbalanced growth" potentialities, including the growth-enhancing linkages between the public sector and the new private sector that emerged during the economic reforms;

4) The state's ability to properly deal with the necessary changes in the demand structure faced by of national industrial production, leading to a parallel expansion of domestic demand along with an increasing export-led and investment-led growth pattern;

5) Creation of a national system for development financing, with public banks playing a central role in financing production;

6) Gradual and intense import substitution process;

7) Implementation of an active foreign exchange policy and export policy oriented to competitiveness purpose.

There are still many ways to fruitfully develop the pioneering intuition of early developmentalist authors. Arthur Lewis, Alexander Gerschenkron, Albert Hirschman and Raul Prebisch are essential authors for the study of the process of late industrial development, as we show to be the case for China's recent development.

Finally, it is notable that China is currently experiencing an internal transition of its accumulation dynamics, the results of which are unclear. Combined with the confusing international economic scenario, this internal Chinese transition acquires more complicated contours through a series of explosive social, regional and environmental contradictions that are coming into force. The slow process of internationalizing China's currency has been combined with greater financial liberalization. New forms of state action and planning must be prepared to confront the new domestic and international scenario. Liberalizations have always been followed by state action on another level. This is one of the great challenges to be faced by China's government.

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