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BOOK REVIEW. NEW STRUCTURAL ECONOMICS BY JUSTIN YIFU LIN*

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The international financial crisis of 2008-2009, its impact on economic activity and contrasting responses to face it have given new impetus to the debate between academics, international organization representatives and public officers on the scope for public policies to reduce the adverse impact of external shocks and trigger sustainable long-term growth in production and employment. The intensity and length of the international financial crisis in developed economies has demonstrated that market forces, by themselves, do not ensure sustained economic growth or shield local economies from financial or balance of payment imbalances. On the other hand, the still distant success of the different economic policies adopted in response to the crisis reveals the restrictions—ideological, conceptual and political—on governments in the design and implementation of an effective countercyclical strategy. For Latin America, the debate gives a fresh twist to the deliberations that started at the end of the 1990s to explain the failure of the so-called Washington Consensus in fostering sustained product and employment growth.

Against this background, a vast body of literature has emerged recently that focuses on explaining the causes of the international financial crisis and, equally or even more important, on identifying and proposing new strategies or agendas to overcome the crisis and achieve sustainable development.[1] Noteworthy among these works is the contribution of Justin Yifu Lin, until recently Chief Economist for the World Bank, in his book *New Structural Economics* published in 2012. One of the merits of this book is that it includes sections with comments and debates with diverse academics including some that are particularly critical such as Ha-Joon Chang and Alice Amsden. Including this criticism turns the book into a particularly valuable text for those who study the subject of public policies for development. The review of this important and controversial book is divided into two parts. The first part examines the key ideas and the second makes a critical analysis of its contributions, as well as of its limitations and omissions.

* Lin, Justin Yifu. *New Structural Economics. A Framework for Rethinking Development and Policy,* The World Bank, Washington, 2012.

[1] See, for example, CEPAL (2010); BID (2010); OCDE and CEPAL (2011), and Cimoli, Dosi and Stiglitz (2009).

Professor Yifu Lin begins by underlining that the search for sustainable economic growth has been the topic that has captured the attention of economists and policy makers the most in the last 250 years, beginning with Adam Smith. An important point of the book, in which, by the way, he quotes Kuznets (1966), is that he argues that sustainable economic growth requires not only the accumulation of factors of production but also a deep transformation of the productive structure. This allows diversification and moving from an economy based on agricultural activities and the production of traditional goods towards an economy based on manufacturing and diverse more modern activities. From his perspective, this structural transformation allows substantial and long-lasting increases in work productivity which are necessary for sustainable economic growth.

The author correctly points out that countries that have led world growth since the Industrial Revolution have experienced deep structural changes in the composition of employment and in the relative contribution of the primary, secondary and tertiary sectors to economic growth. Pointing at structural change as a key element for robust and sustainable growth is not something new. This has been mentioned by development theory pioneers, as well as by economists, such as Allan Fisher (1939), Hollis Chenery (1960), Arthur Lewis (1954), Luigi Pasinetti (1981) and Nicholas Kaldor (1957). The same issue has been examined more recently by Ha-Joon Chang (1994) and Alice Amsden (2001), from an heterodox point of view, and from a more orthodox point of view, Dani Rodrik (2007), Ricardo Hausmann (2003) and Justin Yifu Lin, although with varying emphasis on the role the market and the State play to triggering or catalyzing economic growth. In fact, they all recognize the market as the key mechanism for allocating resources and, at the same time, acknowledge that the government should play an active role in coordinating investments for technology upgrading and diversification.

After analyzing successful and failed experiences in terms of economic growth in different countries, Lin proposes what he calls a "neoclassical approach to studying the determinants and dynamics of the economic structure". He points out that this approach is based on three ideas. The first is that endowments of production factors are not the same at different levels of development since each level requires a different infrastructure—both material and intangible—to facilitate the operation of the economy. The second is that economies are in different development states according to their transition from a low-income agricultural economy to a post-industrialized high-income society. His third key idea relates to the role of the market and the State. Lin argues that regardless of the level of development, the market is a key mechanism for allocating resources even though active State participation is required to facilitate the structural changes needed in the development process. The fact that Lin recognizes that the State should play an active role in every development agenda is a significant development, almost a transgression of the traditional view associated to the so-called Washington Consensus that was dominant throughout most of the 1980s and 1990s in Latin America.

Lin argues that the productive structure of any country, and thus its competitive advantage, is endogenous to its factor endowment. Thus, economic development is the result of changes in factor endowments and continuous technological innovation. Upgrading the production structure of countries requires changing factor composition from one with relatively abundant labor and natural resources to one with relative capital abundance and frequent introduction of new technologies and related infrastructure improvements to facilitate economic activities. Thus, the "new structural economy", as Lin calls it, considers that the path to building an optimal industrial

structure begins by exploiting productive activities conforming to the competitive advantage provided by the factor endowment structure at the time. The key point of his vision is his criticism of policies and schools of thought seeking to encourage a development strategy that does not take advantage, or is even against, of the inherent comparative advantages of a country's structure and factor endowment.[2] Furthermore, Lin claims that one of the main reasons for which Latin America and other developing regions have not been able of achieving structural change leading to high and sustainable economic growth is their insistence in prioritizing the development of capital intensive industries, scarce factor, instead of labor and natural resource-intensive activities.

Lin recognizes that technological change plays a key role which results in the evolution of the capital labor ratio (K/L). To this respect, he declares that since emerging economies are relatively underdeveloped, they have great potential to foster growth by adopting and adapting existing modern technologies generated some time ago by fully industrialized developed economies. This option is not available to developed economies because they have to invent and innovate in order to produce in the world technology frontier and this requires continuous investments in research and development (R&D). He argues that the possibility of using off the shelf technologies and competing in existing industries is what has allowed certain East Asian economies to reach sustained economic growth rates of between 8 and 10 percent for many years.

Emphasizing existing or static comparative advantages is perhaps the most controversial issue in Lin's approach, with both the old structuralist school and its more recent supporters. In fact, the old structuralist school explicitly and decidedly suggests the use of policies that, through administrative controls, price distortions and direct public intervention in private enterprises, seek to modify current comparative advantages. In addition, even though it recognizes the importance of the market, it believes that the State should have most of the responsibility or take the initiative to reallocate resources in order to create future comparative advantages.

Lin is asking the State to play an active role in promoting development but the role he recognizes and asks that the State should play is quite different from the one Latin American developmentalist regimes think it should be. In fact, in his book he criticizes this view—which he calls the old structuralism—because of its excessive optimism regarding the capacity of the State to correct market failures. Thus, from his point of view, government intervention in the economy should be limited to strengthening and ensuring the correct operation of markets only when it concerns: a) providing information on new industries consistent with comparative advantages, which in turn are determined by changes in factor endowment; b) coordinating investments in related industries as well as in infrastructure improvement; c) subsidizing activities that have externalities on the process of technological upgrading and structural change and d) triggering the development of new industries through "incubation" or by attracting foreign direct investment.

Once the analytical formulation of his approach has been set forth, Lin suggests a six-step methodological framework for facilitating economic growth:

[2] For example, Ha Joon Chang, Alice Amsden and the pioneers of developmentalism in Latin America in the fifties and sixties (Raul Prebish, Celso Furtado, and Hans Singer) and more recently, economists such as Fernando Fjnzylber, Mario Cimoli, Jaime Ros, and Gabriel Palma.

i) Developing country governments should identify a list of tradable goods and services, which have been produced over the last 20 years by countries that have experienced dynamic growth, with similar factor endowments but twice as high incomes per capita;

ii) From those industries in the list, the government can prioritize industries where local companies have entered spontaneously and try to identify the obstacles that have hampered their ability to improve product quality, as well as the barriers that are preventing other companies from entering;

iii) Some of the industries identified may be completely new to domestic firms. In this case, governments can adopt specific measures to encourage firms from high-income countries to invest in these industries and take advantage of lower labor costs. Governments can also launch incubation programs to foster entry of local companies;

iv) In addition to those industries identified in step 1, governments must pay special attention to successful cases of self-discovery and support the growth of these local companies;

v) In countries with poor infrastructure and unfriendly business environments, governments can invest in industrial parks or export processing zones and make the necessary improvements to attract local or foreign companies willing to invest in the selected industries;

vi) Governments can provide incentives to local pioneer companies or foreign companies operating in the list of industries identified in step 1 to compensate them for the generation of non-exclusive knowledge. These incentives should be limited in terms of time and cost. They may comprise income tax exemptions for a reduced number of years, direct credits to co-finance investments or preferential terms to import equipment.

Having summarized the key assumptions of the book, in the following pages of this book review we highlight the main elements of Lin's proposals with which we agree, as well as those with which we do not agree, and identify certain omissions. Our appreciation is based on recent ECLAC studies on industrial policy and structural change for development.

First, we would like to underline the arguments we agree with. The first, which we welcome, is his insistence on recognizing the need for the State to play an active role in the economic sphere to foster sustainable development. As Lin points out, active public policies are essential to foster structural change that leads to long-term growth. Second, we totally agree that the international financial crisis forces us to rethink the role of the State and the market in the development agenda since it has been recognized that the strategy associated to the Washington Consensus was not right to promote growth and investment and thus, it should be reformulated.

On the other side, we disagree with certain relevant aspects of the instruments and guidelines that, according to Lin, are accessible to the government to foster development. Our differences can be summarized in the following three issues:

a) Static comparative advantages

In contrast with Lin's book, we believe development should not necessarily be limited to exploiting the comparative advantages provided by current production factor endowments. Actually, as Ha-Joon Chang suggests in his debate on industrial policy with Lin in one of the chapters of the

book, we think current comparative advantages are the basis of structural change strategies, but they must be challenged to achieve industrial upgrading. There are multiple examples of countries that have not been able to develop their economies because they have specialized in industries or activities that reflect the composition of the productive factors: cheap labor and natural resources. In contrast, and as Nokia in Finland and the electronics industry in South Korea illustrate, development sometimes demands "making a gamble" and making long-term investments to create new industries.

It is true that building production and technological capabilities is a gradual and costly process and that the development of new technologies is path dependent. Nevertheless, one should bet on new industries and new technologies that provide great medium and long-term expansion and development opportunities. As ECLAC points out, it is particularly important for countries in the region to intensify their efforts to participate in the new technological paradigms: biotechnology and information and communication technologies (CEPAL 2008). Particularly for biotechnology, the Commission indicates that since the paradigm is still in its initial phase, there are big windows of opportunity for countries in the region to develop capabilities and compete in this area. If they waste any more time, the gap with countries that are investing more will be unbreachable. Even worse, if they follow Lin's suggestions, countries in the region should not invest in these sectors because by doing so they are challenging their current comparative advantages resulting from a low-skilled labor and natural resource-intensive factor endowment.

b) Limitations in the framework for identifying and facilitating growth

Having a methodological framework capable of providing governments with guidelines to identify new long-term growth opportunities is extremely important. Despite improvements, moving away from the *laissez faire* approach to industrial policy established by the Washington Consensus, the framework suggested by Lin has certain weaknesses or limitations. In the first place, in terms of sector selection, the methodology used does not take into account the potential capacity of the country or the convenience of entering new industries. The identification of promising areas should be accompanied by technological forecast exercises and a detailed assessment of the strengths and weaknesses of production sectors, based not only on its current factor endowment, but also on how to achieve structural change, so it responds to future needs.

Second, Lin's framework does not address as comprehensively as required, the issue of investing in national capabilities leading to generating the human resources and the innovation infrastructure required to enter industries with increasing returns to scale and growing demand, which offer high potential for production linkages and long-term development. On the other hand, these capabilities are a requirement to attract foreign companies willing to carry out increasing value added and technological content activities.

Third, none of the six steps mentioned above recognizes the importance of partnerships with the private sector in industrial policy formulation and, actually, in the whole agenda for long-term development. How can these agreements or partnerships be achieved? What value chains should be prioritized in the country's development goals? These questions are left unanswered in the framework suggested since it follows a top-down approach. Such a vision makes it hard to recognize the critical importance of creating political will to build consensus around a shared vision of the national economy in the future. For instance, South Korea, New Zealand, Finland and Ireland,

among other countries, have achieved outstanding success in their structural change towards productive development based on greater innovation capabilities despite starting with different factor endowments. An essential element of their development process was building alliances between the public and private sectors to jointly formulate a national development strategy.[3]

Lastly, the framework suggested by Lin should give more importance to the great differences among developing countries. Even though he criticizes the trap of recommending "one size fits all" policies, he is running the risk of doing so because the methodology suggested by him seems to be quite similar for different countries. The framework seems to be the same for, on the one hand, Mexico and Brazil, which are countries with robust production structure and presence of a wide range of sectors and, on the other, for small open economies with some industrial infrastructure such as Central American economies or for predominantly agricultural low-income countries.

c) Differences in approaches and concepts

We also disagree with some of his opinions regarding the need for government intervention in the economic sphere and the methods used. We disagree that the government should intervene only when the market is not working properly. The approach to industrial policy recommended by us, in line with ECLAC's, emphasizes the need to move beyond market failures, recognizing that the government plays an important role in creating markets and capabilities that go beyond or challenge what market signals suggest or encourage at present. An important point in connection with this is the role of the State in selecting sectors and providing support to emerging industries.

Likewise, we find it difficult to agree with Lin when he speaks of an "optimal industrial structure" or an "optimal combination of financial instruments". We do not believe that building an optimal structure applicable to all developing countries is possible or viable. The most appropriate industry characteristics or financial system to achieve economic and social development depend on production and technological capabilities of the country, as well as on a wide range of historical, social and cultural factors.

His interpretation of the success of East Asian countries is either partial or biased. South Korea is a clear example of a long-term development vision that challenged existing comparative advantages right from the start.[4] In a few decades, this country went form a low-income predominantly agricultural economy to a high-income country based on high-tech industries. Its technological development significantly benefited from the acquisition of foreign technologies, but in contrast to what Lin argues, this was not an automatic or simple acquisition. It was always driven by significant efforts to develop national capabilities, allowing the use, modification and subsequent generation of new technologies.

Lin's arguments repeatedly seem to confuse technological knowledge with information; a confusion characterizing the conventional economic paradigm. If it is so simple for emerging or poor countries to acquire technologies generated in higher income countries, how do you explain the growing gap between these two groups of countries in terms of technological capabilities and

[3] See Devlin and Moguillansky (2010).

[4] A great number of authors agree with this interpretation of Korea's success. See, for example, Chang (2006), Amsden (1989, 2001), and Kim (1993, 1997).

productivity? Developing countries must invest in building technological capacities in order to be able to identify foreign technologies that are more appropriate for their production structure, as well as for adapting them to their needs, and to subsequently modify them and generate their own technologies.

Where are the global value chains? An analysis of the production structure in developing countries is incomplete if the concept of global value chains is not incorporated. [5] Lin always speaks in terms of industries, but as the Mexican and Central American cases show, the key to higher industry growth and generation of quality jobs is not in the sectors but in the activities and processes firms participates in. You can have a consolidated electronics industry and even attract firms from the aerospace sector, but national value added will continue to be low if they participate in activities that are less knowledge intensive. In his framework for identifying and facilitating growth, Lin suggests creating export processing zones as a mechanism to attract foreign investment. As ECLAC has repeatedly pointed out, [6] export processing zones and other schemes to promote exports (such as *maquila*) have been useful mechanisms to generate employment and attract FDI. The lack of integration with the rest of the local economy and participating in global value chain links that incorporate little knowledge have limited their economic impact. Diversification of the production structure and exports has not been accompanied by the development of local technological capabilities. Global value chains are a very useful tool to make an in-depth analysis.

Finally, Lin's book, as well as his readers, would benefit from more references to different schools of thought that tend to be scarcely mentioned in conventional literature in the US, including recent contributions to studies on obstacles to development in Latin America as well as the school of evolutionary thought and their ideas regarding innovation systems.

In any case, despite the above-mentioned limitations, Lin's text is a welcome contribution conducive to leaving aside the dogmas that have dominated the region's development agenda for so long. It was erroneously believed that development could be achieved with minimal or null State participation in creating incentives to reallocate resources. From our particular point of view, his contribution will have to be complemented by taking into deep consideration the needs and ways to create comparative advantages as an essential element for long-term economic and social development.

[5] See, for example, Gereffi and Korzeniewicz (1994), Humphrey and Schmitz (2002), and Kaplinsky (2000).
[6] See, for example, CEPAL (2008), Padilla Pérez et al (2008).

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