Developmental macroeconomics: a post-keynesian assessment

Macroeconomia desenvolvimentista: uma avaliação pós-Keynesiana

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RESUMO: A relação entre taxa de câmbio, investimento e crescimento econômico tem sido objeto de estudo de autores de diferentes matizes teóricos, e está no centro da análise do chamado Novo Desenvolvimentismo, cujo modelo foi sistematizado recentemente por seus autores, após muitos anos trabalhando neste tema e com diversos artigos publicados em periódicos nacionais e internacionais. O objetivo deste artigo é realizar uma avaliação crítica do Novo Desenvolvimentismo (DM). Conforme seu argumento central, os países em desenvolvimento apresentam apreciação crônica e cíclica da sua taxa de câmbio real que, por sua vez, impõe limites ao investimento e crescimento dos setores mais dinâmicos e de maior produtividade da economia, impedindo a convergência da renda per capita dos países em desenvolvimento e desenvolvidos. Constatamos diversas contribuições do DM à literatura, mas, também, equívocos, contradições e a necessidade de elaboração teórica em diversas áreas da economia para que seja alcançado um modelo coerente e completo, capaz de explicar as barreiras ao aumento da renda per capita nos países em desenvolvimento, como também as políticas necessárias para superá-las.
PALAVRAS-CHAVE: Taxa de câmbio; investimento; crescimento econômico.

ABSTRACT: Authors from distinct schools have studied the relationship between the exchange rate, investment and growth. This relationship is key for the named Developmental Macroeconomics, whose leaders have just recently started to compound a systematic model evolving all the ideas they had worked out since long ago and after several papers published in Brazilian and foreign Journals. The aim of the paper is to critically assess the Developmental Macroeconomics (DM) model. DM argues that the exchange rate in the lower and medium developed economies (LME) tends to be chronically and cyclically

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overvalued begetting a barrier to investment and growth in the manufacturing industry, which is the best to provoke the productive enhancement of any economy, preventing the convergence of per capita income between LME and developed countries. We conclude that DM contributes to the literature in many points. Nonetheless, DM model is misleading in some points, showing some mistakes and contradictions. It yet needs fulfilling several branches to construct a full model to explain why some LME do not reach sustainable growth and do not converge their per capita incomes to that of developed economies.

KEYWORDS: Exchange rate; investment; economic growth.
JEL Classification: F 31; F41; O11; O14.

INTRODUCTION

After many years working on the topic and several papers published in Brazilian and foreign Journals, Luiz Carlos Bresser-Pereira, José Luis Oreiro and Nelson Marconi summarized the so-called Developmental Macroeconomics or New-Developmental Structuralist Macroeconomics in a book-length text released in 2016, entitled *Developmental Macroeconomics: theory and economic policy of the new-developmentalism*.

The main argument of the Developmental Macroeconomics is that the exchange rate in the lower and medium developed economies tends to be overvalued in the long-run because they often suffer from Dutch disease and also adopt three "usual policies": high interest rates, growth *cum* foreign savings policy and the use of the exchange rate as an anchor against inflation.

So, the most technically competent firms of the manufacturing industry in these countries not only lose the local market to foreign competitors but they also do not expand their access to external demand, which is key to overcome the local demand constrains given that no country is an autarky. Moreover, the authors claim that the manufacturing industry is the best to provoke the productive enhancement of any economy, thereby catching up the technological level, promoting productivity gains, adding value to the overall economy and improving per capita income. Then, development strongly depends on the evolution of that industry.

Given the Dutch disease, the currency of developing countries appreciates in the long-term and their manufacturing industry either does not evolve or, if already built, it deindustrializes over time. There is, thus, a barrier to lower and medium developed countries to enhance their per capita income, and they are condemned to remain in this situation if nothing overcomes the exchange rate appreciation tendency.

If Dutch disease is the problem faced by developing countries and if market forces are unable to solve it, economic policies should be implemented. Otherwise, the countries remain standstill in the Dutch disease-exchange rate overvaluation trap and do not catch up the technological level and the per capita income of developed countries.

Explaining what these countries go through and arguing how they could out-

do the phenome is the goal of Developmental Macroeconomics. In turn, our aim is to critically assess its model. We mean by critically assessing not a negative judgment of Developmental Macroeconomics, but, contrarily, the attempt to see further than the authors in their own work. Developmental Macroeconomics is a new theory concerned with a problem pertinent only to developing economies: the long-run exchange rate appreciation tendency. The construction of a new theory is a laborious and difficult task. Therefore, mistakes and contradictions are expected. To mention just one recognized researcher in economics, Keynes changed his opinions about the *modus operandi* of economies in his oeuvre. So, the mistakes and misleading comments we think Developmental Macroeconomics do are highlighted in this paper, although they do not dismiss the importance and brilliance of its contribution to the literature. We pursue to marginally add to the robustness of this under construction theory, since we agree with the main points discovered by the Developmental Macroeconomics: the Dutch disease-exchange rate overvaluation trap, the presence of a set of exchange rate values and the exchange rate cyclical behavior in the lower and medium developed economies.

Our assess relies on the Post-keynesian theory, which furnishes us several concepts with which we evaluate discourse, propositions, advancements and conclusions of the Developmental Macroeconomics. However, we will not inscribe a specific section to present the Post-keynesian economics. Instead, we display the theory only when it is relevant for basing our criticisms. We also resort to other theoretical frameworks and authors not affiliated to Post-keynesianism, whenever they add to our analysis.

Besides this introduction, the structure of the text addresses the main points we criticize in Bresser-Pereira et al. (2016). Second section briefly describes the Developmental Macroeconomics' model. Based on the Post-keynesian perspective, third section assesses the Keynesian nature of Developmental Macroeconomics whilst fourth section debates the substitution between domestic and external savings issue. Fifth section relates non-Post-keynesian exchange rate models to the one Developmental Macroeconomics displays. Sixth section analysis the concept of Amplified Dutch Disease and the economic policy Bresser-Pereira et al. (2006) propose to offset it. Last section presents the final remarks.

DEVELOPMENTAL MACROECONOMICS: AN OVERVIEW

Developmental macroeconomics (DM) is, in fact, a labored model that pursued to evolve economics in the topics of growth and development. It focuses on the role of the exchange rate (ER)[2], exchange rate policy (ERP), manufacturing industry (MI), and technical progress, to explain both why lower and medium developed

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[2] To let the text lighter, when we say ER, without qualifying it, we mean both the real (effective) and nominal ER. If needed, we specify to which ER we refer, of course.

economies (LME) do not grow satisfactorily and how to overcome it. DM starts stating the MI as the economy's dynamic sector, responsible for promoting long-term growth and development. So, DM sets, assuming Schumpeterian and Kaldorian hypothesis, the technical progress as endogenous to capital accumulation and the presence of dynamic and static economies of scales in the MI, the most capital-intensive economic sector.

Thereby, the MI is key to development, defined by the authors as "a process of capital accumulation with systematic incorporation of technical progress, implying productivity increase or per capita income gains and better quality of life" (Bresser-Pereira et al., 2016, p. 15).[3] The enhancement of productivity transfers labor to sectors with better technical progress, which are part of the MI or are closely related to it. In short, MI and its linked sophisticated services are the sectors where technical progress emerges and increasing scale returns prevails, conveying to productivity gains and, consequently, to development.

However, the DM identifies a barrier to the MI's improvement (and so, to development) in several LME: their chronic and cyclical ER appreciation tendency, even in the already industrialized countries. The currency valuation means a reduction in tradable goods' prices in relation to non-tradable goods. As the latter – salaries included – are a production cost of the former, an overvalued currency reduces the tradable goods' profit rate, to which MI pertains, inhibiting investments. The lower the MI investments are, the weaker development is: this is the DM's Keynesian feature.

Departing from an ingenious framework of an ER set, DM argues that LME have Ricardian rents in their natural resources intensive sectors and/or cheap working force, chiefly in the populous countries. Each one, or even both features, can make LME have lower production costs and profitable export even with a more appreciated exchange rate than the required by the MI exports. In other words, LME commodity producers are profitable even with an appreciated real ER.

DM stipulates three levels for the ER: the current equilibrium, the industrial equilibrium and the foreign debt equilibrium. The exports of the sectors that have comparative advantages and Ricardian rents are responsible for foreign money inflows into the economy. The corresponding ER level is compatible with the current account equilibrium, named by the DM the "current account equilibrium ER". At this level, MI and its related sectors do not profit, while the Ricardian rent sectors do. Thus, technical progress and productivity gains are stormed in the medium/long-run, precluding the technological catching up and the reduction of the per capita income gap amongst the LME and rich countries. The second ER level turns competitive and profitable the firms that have *state-of-arts* technology and do not benefit from Ricardian rents. DM calls this the "industrial equilibrium ER", which is compatible with current account surpluses. The third level of ER regards coun-

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[3] As we make several references to Bresser-Pereira et al. (2016), from now on we just mark the page we quote.

tries with constant current account deficits, and in need of attracting external savings to finance their balance of payments. This ER is more valued than the current account equilibrium ER and it is consistent with a stable foreign debt/GDP ratio – so, DM names it the "foreign debt equilibrium ER".

DM goes on to the ER determination, which is in terms of value and price. The magnitude of the ER value always depends on the firms that access external markets, but it differs within the type of firms that does the access. For instance, if the country's firms compete using the better available technology, the value of the ER corresponds to the MI equilibrium; but if the country suffers from Dutch disease, the value equals the production cost plus a satisfactory profit rate of sectors others than the MI, and it is appreciated and corresponds to the current account equilibrium level. In turn, the market exchange rate fluctuates around the current account equilibrium according to the demand and supply for foreign money.

DM creates the concept of Amplified Dutch Disease (ADD) which serves to explicate the long-run ER appreciation tendency in the LME. The galore of natural resources and of unqualified working force generates the ADD, because of the Ricardian rents and their resultant current account equilibrium ER. The ADD – which is larger than the original concept of Dutch disease because it embraces not only the economic problems of the abundance of natural resources, but also the ER appreciation caused by the huge difference between wages of skilled and unskilled workforce within the MI. The latter is caused by abundant labor, and depresses MI's profits and investments, thus hindering growth and development. Hence, only when the ER price approaches the MI equilibrium, profits capable of stimulating new investments are awaited, making development possible.

The described ER overvaluation gets even worse, DM argues, because LME also suffer from ER populism as their governments undertake economic policies (high interest rates, growth *cum* foreign savings policy and the exchange rate anchor) that chronically overvalue the ER and cause current account deficits. While the country is getting indebted in foreign currency due to current account deficits, agents start a period of speculation (carry trade) profiting from the continuous appreciation of the currency and interest differentials between LME and rich countries; therefore, a credit bubble and a Minsky's Ponzi financial situation emerge while the net external liabilities of LME increase. As sudden as agents stop believing in the financial stability of the country bearing a Ponzi stance, an ER crisis occur, followed by an ER overshooting that forces the currency to depreciate over the MI equilibrium level. Yet, ADD is imperative and happens time and again, restarting the cycle.

If the ADD is almost natural, what would mitigate it? Economic policy would. DM proposes an ERP that levies tax on the Ricardian rents sectors, pushing their production costs up and the ER value too. Governments should increase this tax to the point at which the ER value is at the MI equilibrium. This would neutralize the ADD so that the MI does not miss the country's domestic market and access external markets, guaranteeing sustainable growth and development.

ASSESSING THE KEYNESIAN NATURE OF DM

DM claims itself Keynesian. On the one hand, it sees economic dynamic as demand-led and investment as the economy's driving force, chiefly those of the MI. Capital accumulation, employment and wealth depend on entrepreneurial profit expectations which, in turn, seek prospects of future demand for their production. On the other hand, inspired by Thirlwall, DM argues that the external market is the mean by which there could be the continuous expansion of demand – and so of investments – farther than the internal market could support. Thus, development relies not only on the local producers selling to the internal market but also to external markets.

Bearing that in mind, DM creates a new idea over Keynes' original conception, when it says that what matter to entrepreneurs is, yonder than effective demand, the access to demand. In the words of Bresser-Pereira et al. (2016), "demand is not enough to a firms' satisficing level of investment; it is needed, additionally, that firms have access to this demand" (pp. 3-4), what the LME long-run ER appreciation tendency obstructs. To stress the notion of demand access, the authors go ahead,

> but, there are great differences between the Developmental Macro-economics and Keynesian macroeconomics [...]. Firstly, to the Keynesian Macroeconomics there is an insufficient demand tendency, whereas to the Developmental Macroeconomics there is also the tendency of insufficient access to demand. (p. 7)

So, DM states that to Keynesian macroeconomics, investments depend on the existence of effective demand, while to DM "the guarantee of effective demand is not enough: governments should formulate an active exchange rate policy that warranty to firms the access to demand, avoided by an appreciated exchange rate" (Ibidem). Demand access is key to DM, it is the exogenous variable that, along with the interest rate and effective demand, explains investment.

Likewise, to Keynes (1973), there is no promised effective demand – if it is so, the economic problems would end. All that entrepreneurs want is to access demand, domestic, external, or even better, both. Whenever Keynes argued about expectations, expected profit, expected proceeds, he was asserting about having access to demand, but without using the word 'access'. Insufficiency of effective demand means that entrepreneurs did not access the whole demand they wished, planned and produced to.

In other words, to Keynesian macroeconomics the level of the real ER affects effective demand, i.e., the ER is considered in the formation of entrepreneurial expectations about the future demand level – the concept of effective demand is different from the concept of aggregate demand. Moreover, DM intends to highlight an economic problem that is peculiar and crucial to LME development: the exchange rate appreciation tendency. Thus, to not making it a misleading notion, "access to demand" should be used by DM as an important factor that depends on

the real ER level and is relevant to explain the effective demand level in LME. Although the real ER decisively explains effective demand in LME, it has not got similar relevance to developed countries because they have not got Dutch disease. Hence, there is no difference between the Keynesian Macroeconomics concept of "insufficient demand" and the DM concept of "insufficient access to demand". In short, DM confuses the concept of aggregate demand with that of effective demand

Nevertheless, having lived in a Great Britain which first collected the benefits of the trade system it created worldwide, that then saw the imperialist World War I and lastly witnessed the United States of America overtaking its power after the Second World War, Keynes (1973, 1980) turned himself very much critical of any sort of exporting-led growth strategy. In Keynes' words, this system "may lead to a senseless international competition for favourable balance which injures all alike" (1973, p. 338-9). Even if the international competition is done through productivity gains or other kinds of salary reduction and/or cost control, Keynes (1973) was critical, as "the remedy of an elastic wage-unit, so that a depression is met by a reduction of wages, is liable, for the same reason, to be a means of benefiting ourselves at the expense of our neighbours" (p. 339).

Keynes' (1973, 1980) concerns regarding an international trade system in equilibrium were so overwhelming that he designed and proposed the well-known International Clearing Union in the post-World War II Bretton Woods Conference. His idea is self-explicative: there is just one world and so it is impossible that all countries bear a positive trade balance. To solve this problem and oblige one country to not gain at the expense of the others – a rule nowadays, with all the Quantitative Easing programs undertook by the developed countries – Keynes (1980) came up to Bretton Woods with the suggestion of a multilateral institution that would automatically compensate trade unbalances between countries.[4] To Keynes, this would assure,

> a policy of autonomous interest rate, unimpeded by international preoccupations, and of a national investment programme directed to an optimum level of domestic employment which is twice blessed in the sense that it helps ourselves and our neighbours at the same time. (1973, p. 349)

However, the core idea of DM does not shock with the Keynesian view whenever there is not an international trade system such as the International Clearing Union. The rich countries benefit from the ADD suffered by the developing countries, consequently having chronic current account surpluses "at the expense of their (developing countries) neighbours".[5] Therefore, if LME faces the question through

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[4] To understand how the system works, see Ferrari-Filho (2006).

[5] Rich countries' current account surpluses are, of course, caused also by other factors, as technical progress and productivity gains. Moreover, United States and United Kingdom show chronically current

devaluating its ER this may lead to a currency war with everyone losing. Still, from the LME point of view, giving the confrontation up is like being always losing the war and undergoing all the problems that an overvalued ER brings about. The currency war was initiated by the ER devaluation in the rich countries as it is the counterpart of the ER overvaluation in the LME caused by their ADD. Thus, it does not make sense for the LME to accept the damage caused by the ER overvaluation. Not neutralizing the ADD means accepting a loss that is illegitimate for poor countries that are part of the LME and a gain that is equally illegitimate for the rich ones. DM sees LME as losers and honestly and originally sets the strategy to overcome this condition. As Keynes argued, this would culminate in a type of unending foreign trade war. Nonetheless, this is the real (and dangerous) world where we live. It is better facing the problem through economic policies that aim at an undervalued ER, as China did, than tolerating the Dutch disease trap.

To sum up, the difference between DM and Keynesian macroeconomics is at their view on the ER and commercial domestic policies required to deal with the international trade system. DM points out an economic problem suffered only by LME, which was not concerned by Keynes, i.e., the exchange rate appreciation tendency. Therefore, DM claims for an active ER policy to surpass the LME development hindrance whereas Keynes proposed an active ER designed only to stimulate domestic investments without accounting for the difference between LME and rich countries.

Notwithstanding the two fundamental Post-keynesian assessments to the core DM assumptions, namely, the DM so-called access to demand and the issues concerning any kind of, even those only partly, export-led growth strategies, there are five other Keynesian assessments to be argued yet. We now state three specific criticisms, which are the aim of Keynesian economic policy, the role of income inequality and DM's view on inflation.

First, DM commits two mistakes when presenting the Post-keynesian macroeconomic policy mix. First, within the differences between DM and Keynesian macroeconomics, Bresser-Pereira et al. (2016) states that the latter pursued to "explain unemployment and how to overcome it" (p. 7) whereas DM was "focusing on growing with stability" (Ibidem). Keynes (1973, 1980, 1982a, 1982b) extensively shows that stability is key to a sustainable growth in such a way that the stability of economic, political and social variables as well as of economic policy actions and of juridical circumstances, like contracts, laws, rules, begets good expectations and conventions, improving investment levels. Keynesian economic policy, Arestis et al. (2016) show, seeks stability to grow rather than growth with stability, that is, stability is a precondition to a sustainable growth.

Moreover, DM argues that "whereas Keynesian macroeconomics considers fiscal and interest rate policies only, DM asks for an active exchange rate policy"

account deficits, but it is because they host the two biggest financial markets in the world, as it is explained by Resende and Amado (2007).

(p. 8). Keynes (1980) strongly required an active ERP. Keynes' proposals for the International Clearing Union and his participation in the Bretton Woods Conference are proof of his concerns with more than an each country ERP, but with a worldwide coordinated one, the only possible (however utopic) strategy to avoid one country exporting its economic problems to others. Furthermore, Keynes (1982b) argued in favour of an active income policy. Thus, active fiscal, monetary, ER and income policies represent the full Post-keynesian macroeconomic policy framework, diversely from what DM says.

Second, notwithstanding Keynes' (1982b) claims for an active income policy, DM states that "it is not by means of the Keynesian macroeconomic policy that a better income distribution would be accomplished" (p. 178). Clearly, this is a wrong proposition. Keynes (1982b) prescribed active income policy because he saw income inequality as economically bad and politically dangerous. He also understood that two outstanding issues "of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes" (Keynes, 1973, p. 372). It is worth noticing that this quote is at Chapter 24 of Keynes' General Theory, in which the author prescribed the social philosophy into which the economic model he developed in his classical book should convey those who read it. If the two mains faults of the economic system in Keynes' (1973) view are the unreachable full employment and the inequitable and frivolous income and wealth share, surely the Post-keynesian macroeconomic policies intend to eliminate them.

The third criticism addresses the nature of inflation. DM makes straightforward statements on the topic, "the basic reason for inflation acceleration is demand excess" (p. 125), "the excess of demand generally explains the acceleration of inflation in normal situations where the inflation rate is relatively low" (p. 126) and only when there is an accelerating inflation rate – which generates a change in its level over time – "the distributive conflict turns itself relevant to explain [inflation], because the shift in relative prices generates significant losses to economic agents" (Ibidem).

Analyzed through Post-keynesian lens, DM shortens the causes of inflation. As Keynes (1973, cap 21) argues, the excess of demand is related to the "true inflation" and does not exist without full employment. Keynes (1973, cap. 21) highlighted some causes of inflation related also to the rise in the effective demand before reaching full employment, such as the increase in the wage-unit, the supply elasticity differentials among sectors, the resources heterogeneity which leads to diminishing returns as employment increases, and the fact that the remunerations of the factors entering marginal cost do not change proportionally. Although Bresser-Pereira et al. (2016, p. 125) touch *en passant* these issues, in Keynes' view there are many other inflation causes than demand excess, and both the distributive conflict and inflation emerge in the context of growth, as the latter pushes wages up.

Although there are problems on how DM absorbs and presents the Keynesian theory, it is very much valuable its effort to build their view about the demand-side being the economic led and investment the dynamic component of the economy.

Diverse from the Post-keynesian theory, which makes an internal advancement of Keynes' theory, DM caught Keynesian elements not to expand them, but to unfold a diverse theory. There was no other economic perspective that used Keynes likewise DM did.

Also, in terms of fiscal policy, DM took really care to not present Keynes the same way several others did, even in the Post-keynesian tradition, as someone prone to fiscal deficit. The idea that Keynes proposed public deficit is due to the New Classical Synthesis of Keynes, which understood the liquidity trap as Keynes' original contribution. In this situation, monetary policy is useless and fiscal deficits are the only instrument to stimulate the economy in the short-run. DM correctly names this misleading perspective 'the vulgar Keynesianism' and adds a contribution to the relevant literature, explaining at pages 149-151 what Keynes' fiscal policy really is.

DM's 'Kaldorian problem': the circular explanation

When explaining the relation between growth and productivity gains, Kaldor (1966) went through a circular explanation: growth implies economies of scales and productivity gains which, in turn, reduces prices and rises exports; thereby, greater exports promote better growth, so that more economies of scales and productivity gains emerge and the process goes forth. This circularity does not account for several other elements that are inherent to explain growth. Some of these factors are subjective, such as uncertainty, expectations and conventions; others are objective, like economic policies or a national innovation system. It is the coordinated presence of all these elements that explains the items at the circular explanation.

On the one hand, DM is aware of this, especially so as it (i) acknowledges the need of developing a political economy theory to base its macroeconomics, (ii) dedicates a complete chapter, 16, to debate the political economy of currency devaluation and (iii) proposes an active ERP along with monetary and fiscal policies. On the other hand, there still is a kind of Kaldorian circularity: a depreciated ER causes better exports which, in turn, generate productivity and lower costs/prices that improve the real ER and reinforce exports; thereby, the circular flux, in an upper scale, goes on.

This circularity is all over the DM, because its long-term equilibrium solution requires it (Chapter 11). The DM long-run equilibrium sets the productive structure, i.e., the MI/GDP ratio, constant. However, DM model stablishes a long-term growth model in which there must be productive sophistication, that is, the productive structure enhancement, development. What would cause the productive sophistication in DM long-run model? It does not present the answer properly, as the productive structure of the economy, which is supposed to change over time, is constant.

What the model allows us to understand is the circularity above: a MI equilibrium ER improves exports, which automatically (given that the productive structure is constant) raise productivity gains, reducing costs/prices, devaluating the real ER and reinforcing the insertion of MI firms in the international competition; anew,

this process goes forth. To corroborate the argument, let us suppose that all countries are at the MI equilibrium ER. If it is so, how could the ER explain the insertion of competitive firms in foreign trade? In this situation, firms' productive structures (and so, of the economy) explain their presence on international markets – it cannot be left aside or constant.

A model is a simplification of reality, and making it requires several suppositions; yet, the assumption of constant productive structure in the long-run blurs the DM model, given that the qualitative (sophistication) and the quantitative (capacity) change of the productive structure is economic development for DM. In the lack of the explanation of the content of a firm's competitiveness, which strongly depends on its productive structure, the circularity remains: besides the MI equilibrium ER set at the early stages of the development process, exports explain exports, through a recurrent productivity gains-lower costs/prices channel.

Well, DM may be aware of this but it might have left the task of explaining why a firm is competitive yet to be done. When Bresser-Pereira et al. (2016) say that the DM microeconomics is still to be developed – which is a fundamental step to increase the foundations of DM, making it more robust – they somehow report awareness of that the substance of a firm's competitive capacity will appear when DM advances its microeconomic scope. Then, the Schumpeterian/Neo-Schumpeterian nature of an innovative firm, which discloses the real-side content of a MI equilibrium ER, will be presented, strengthening the already laborious DM model.

THE ISSUE OF SUBSTITUTING DOMESTIC FOR EXTERNAL SAVINGS: A POST-KEYNESIAN DEBATE

The goals of Chapter 7, "Usual policies of appreciation of the domestic currency", are analyzing both external savings' role in the growth process as well as the economic policies usually adopted by LME, which lead to currency appreciation. DM argues that one of these policies, namely growth *cum* foreign savings, which apparently intends to be a strategy to boost economic growth, is misleading.

According to DM, the growth *cum* foreign savings strategy is a mistake because the real ER overvaluation increases foreign savings which, in turn, replaces the decreasing national savings. DM states that, although policy makers pursue an increase in total savings (national plus foreign) through greater current account deficits caused by the currency appreciation, this would not happen as part of the foreign savings is not added to national savings, but replaces it. Consequently, investment grows less than foreign savings, whereas the country's foreign debt rises.

To DM, the real ER appreciation corresponds to a shift in the relative price of tradable and non-tradable goods, which increases real wages and reduces profits. If workers' propensity to consume is higher than that of capitalists, aggregate consumption rises and national savings reduce. Concomitantly, a current account

deficit (foreign savings) emerges because of the real ER appreciation. Bresser-Pereira et al. (2016) states, therefore, the substitution between national and foreign savings by demonstrating, from the accounting identities view point, why national savings decrease when the real ER appreciates.

To the Post-keynesian theory, this argument confuses the causality between savings and investment, that Keynes (1937) inverted in relation to the neoclassical perspective. To make it clearer, some DM quotes are useful, "our approach is Keynesian and structuralist [...] it is Keynesian because [...] investment causes savings" (p. 7), "the exchange rate appreciates, wages and consumption rise and the internal savings fall, setting up the substitution of foreign for internal savings." (p. 98), and,

> There will always be a substitution of foreign for internal savings; and it [...] will not be necessarily complete, 100%. Some parcel of external savings should result in an investment increase [...]. If, in the period, external savings grow by R$ 1.000 billion [...] and the internal savings reduce by R$ 800 billion, the substitution rate will be 80%, because only R$ 200 billion of the external savings have been added to total investment, the other R$ 800 billion finance consumption. Thus, in this example, which is far from being unreal, a great parcel of the external savings does not finance investment, but consumption. (p. 99)

In the quotes above, DM considers that savings finance investment, whereas to the Keynesian tradition – as well as to Kalecki –, investment precedes savings, which are a residue of the income created in the finance-investment-saving-funding circuit (Keynes, 1937; Arestis and Resende, 2015). The numerical example captured from Bresser-Pereira et al. (2016, p. 99) explicitly assumes that savings come before investment and consumption; i.e., savings are not residual to DM.

Also, the DM mechanism by which real wages and consumption increase whereas profits and internal savings decrease, due to the real ER appreciation, is misleading. Consume propensity changes, *ceteris paribus*, result in shifts in the shares of savings and consumption in aggregate income, but do not entail modifications in the equivalence between internal savings and investments. Assuming an increase in the propensity to consume in a closed economy, *ceteris paribus*, after it changes, investment remains causing savings in the same magnitude. However, the income growth becomes higher own to the expenditure multiplier; consequently, the shares of savings and consumption in aggregate income fall and rise, respectively. So, the idea is the following: an increase in the consume propensity diminishes the savings share in aggregate income, yet they remain the same size as investment.

Thus, why do savings fall along with currency appreciation in an open economy? Aggregate savings (national plus foreign) do not fall, though national savings decrease and not because of the consume propensity rise. National savings reduce

as net exports fall following the real ER appreciation when the Marshall-Lerner condition prevails. According to Arestis and Resende (2015), the effect of a real ER change on the trade balance is twofold. The relative rise in non-tradable goods' price – i.e., the real ER appreciation – stimulates the substitution between their consumption and tradable goods. Furthermore, it reduces the production of the latter, decreasing net exports if the Marshall-Lerner condition is met – what affects the trade balance negatively.

According to the national income accounts, net exports mirror part of national savings. Thus, the real ER appreciation entails a reduction in both net exports and, thereby, national savings, worsening the current account. Also, the rise in the non-tradable goods' relative price, salaries included, fosters consumption due to the income effect, while it mitigates net exports and income. This process results in a larger share of aggregate consumption in national income, which is compatible with the rise in the propensity to consume. Nonetheless, aggregate savings do not fall due to the currency appreciation, *ceteris paribus*: the net exports fall corresponds to a national savings decrease along with an exactly same magnitude increase in foreign savings, i.e. the current account deficit. The substitution between national and foreign savings is necessarily full, 100%.[6]

Arestis and Resende (2015, p. 17) highlight the argument, "since net exports are part of national savings, an appreciated real ER mitigates net exports, national savings fall [...], thereby worsening the current account balance and increase foreign savings. The net exports and domestic savings generated from it, which were the counterpart of domestic investment, reduce after the currency appreciation." Furthermore,

after the real ER appreciation in (country) Z the stimulus from investment to create savings in this country leaks abroad. Domestic investment produces savings; nevertheless, the latter should not be necessarily restricted to domestic (open) economy. The distribution of aggregate savings between its national and foreign parts depends on the level of the real ER. (Ibidem, p. 19)

The issue about the complete substitution between national and foreign savings is also addressed by Possas (2016). From the national income accounts, S = I + (X – M) + (G – T), where S is private savings, and (T - G) is public savings, with the causal relation running from the right side of the equation to S – according to Keynesian approach. So, Possas (2016) states that:

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[6] "If the hypothesis that investment remains unchanged is abandoned, the substitution between national and foreign savings should not necessarily be one to one fashion. If investment falls as a consequence of the exchange rate appreciation, KG (capital goods) imports may be reduced and the degree of substitutability between national and foreign savings becomes an empirical matter." Arestis and Resende (2015, p. 17).

it is not because the government deficit and the current account surplus are also named dissaving, that they are not determined by autonomous expenditures [...] each autonomous change in the foreign and public savings necessarily entails a same size inverse change in private savings, investment [and real ER] given. (pp. 246-247)

Hence, the real ER appreciation promotes a fall in both net exports and national savings, worsening the current account and increasing foreign savings until the latter exactly offset the fall in national savings, given investments. Domestic investment causes savings, and is always equal to national plus foreign savings, but the distribution between national and foreign savings relies on the real ER level. Savings are a residual of the income growth and do not finance investment or consumption, which rise due to the income effect that comes from the non-tradable goods' relative price increase. Thus, from the Post-keynesian view, it is misleading the real ER appreciation leading to a fall in aggregate savings and a rise in consumption instead of investment. As Keynes (1937, p. 669) emphasized, "the investment market can become congested through shortage of cash. It can never become congested through shortage of saving. This is the most fundamental of my conclusions within this field."

THE TENDENCY TO THE REAL ER OVERVALUATION

DM arguments that MI is the sector responsible for pushing the economy up and so it is crucial for the long-run growth. Notwithstanding the relevance of MI to growth, DM identifies a barrier to its development, which prevails in several LME: the chronic and cyclical real ER appreciation tendency – what they assume to be noticed even in the LME that have gone through their industrialization process, like Brazil and Argentina.

However, the literature does not corroborate DM's hypothesis. Depending on the data, the period of analysis and the range of countries, the real ER does not show an appreciation tendency. The following figures report the real ER data for Latin American countries (all LME), over 1990-2015. The real effective ER tendency is stable in Chile, Mexico and Peru, as Figure 1 reports. Figure 2 displays the cases of Uruguay, Colombia and Venezuela, where appreciation tendency appears. In Figure 3, Brazil's data reveals a weak depreciation tendency of the real effective ER, contrariwise to what DM holds. As we work with the American Dollar/National Currency ratio, a decrease in the line means ER valuation in all the figures.

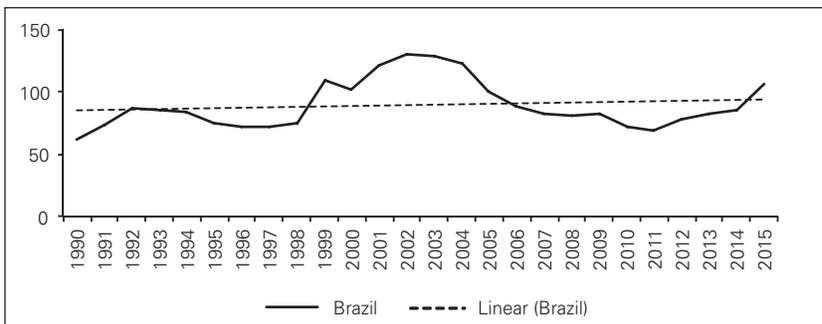Figure 1: Real effective ER: Chile, Mexico and Peru, 1990-2015
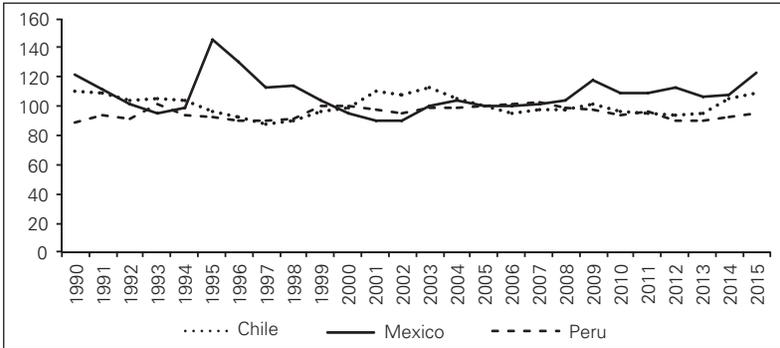
Source: ECLAC (2017).
Note: 2005 = 100.

Figure 2: Real effective ER: Uruguay, Colombia and Venezuela, 1990-2015
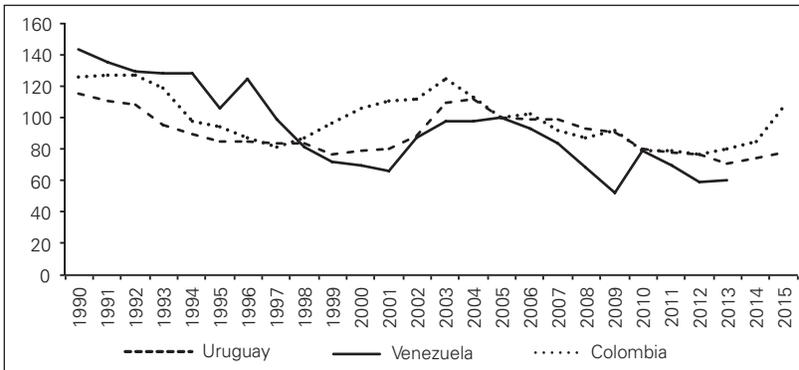
Source: ECLAC (2017).
Notes: 2005 = 100. Data on Venezuela is available up to 2013.

Figure 3: Real effective ER and its tendency: Brazil, 1990-2015

Source: ECLAC (2017).
Note: 2005 = 100.

The relevant literature displays real ER long-run appreciation only in developed countries. Ricardo (1985) first noticed that non-tradable goods' relative price is higher "in the countries where industry flourishes" (Ibidem, p. 108) and low in the others. To Resende (2006, p. 578),

> the four explanations on the determinants of the long-term real exchange rate in an economy correspond to the models of productivity differential of Balassa (1964) and Samuelson (1964), to the factors' relative endowment (Heckscher-Ohlin), non-homothetic preferences (Bergstrand, 1991) and the differential development of service complex (Lemos, 1988).

Balassa (1964) and Samuelson (1964) assume the hypothesis that the productivity gap between LME and developed countries are larger in tradable than non-tradable sectors. Developed countries present absolute productivity advantages in production of commodities (tradable) as well as of services (non-tradable), but only a relative productivity advantage in the production of commodities when compared to a LME. Their model shows that the real wage equals the marginal product of labor in both the tradable and non-tradable sectors. As the former presents higher productivity gains over time, monetary wage rises are forwarded to non-tradable sector's prices, appreciating the real ER and making higher the service/commodities price ratio in the developed countries. As commodities' prices are equalized in the international markets, developed countries have larger price level than the LME, implying real ER valuation in the former and depreciation in the latter.

In the Heckscher-Ohlin model, tradable goods' production is relatively abundant in capital and services' production is labor intensive. The LME, abundant in labor, produce cheaper services than the developed economies. Given that tradable goods' prices are matched in the international market and that the LME make cheaper services, developed countries have greater non-tradable than tradable goods' price; thereby, they have an appreciated real ER (Bergstrand, 1991).

A third explanation for the expensiveness of services in developed countries bears a demand side nature, diverse from Heckscher-Ohlin and Balassa-Samuelson' supply side models. Bergstrand (1991) assigns part of the relation between per capita income and changes in relative prices to the difference amongst tradable and non-tradable goods' income elasticities of demand. The author admits the hypothesis of non-homothetic preferences, so the bigger is the growth of the per capita income, the higher is the increase in the demand for services, pushing service's prices up.

Yet, as Resende (2006, p. 581) shows, Lemos (1988) presents a fourth explanation for changes in the long-term relative prices. To him, development accrues from ongoing productivity gains that stimulates – as well as is stimulated, in a feedback effect – the agglomeration of production factors in urban spaces. In such space, various factors of production's elements interact and generate technical progress and productivity gains, thus attracting capital to that region and making the urban

space and production costlier there. The attraction that this higher urban land rent exerts in terms of drawing the agglomeration of production factors and, then, of productivity, grants to the place in which it happens locational preferences of investments; thereby, factors of production are brought, producing altogether more urban land rent and productivity, turning this dynamic an ongoing process over time.

Lemos (1988) also explains that export goods' prices have lower urban land rent than both non-tradable and tradable goods made seeking the domestic market. So, the developed countries, which have high urban land rent, bear greater cost of living, yet they are still competitive in the international market. In this sense, Lemos (1988) translates Ricardo's (1985) intuition by which the relative price of non-tradable goods is higher 'in the countries where industry flourishes' than in others.[7]

The three mainstream explanations of long-term real ER, as well as the heterodoxy of Lemos (1988), converge to the same outcome, which is contrary to what DM says: the tendency of LME's real ER in the long-run is devaluating. Still, DM's argument is compatible with the mainstream models' hypothesis as well as with Lemos' (1988) perspective, because its theory is about the ER cyclical appreciation in the short run in the LME, as it is explained below.

Actually, DM does not furnish an explanation for the real ER valuation in the long run in the LME since they do not explain the long-term determinants of the prices of tradable and non-tradable goods. In fact, what DM clarifies is the cyclical variation of tradable and non-tradable goods' relative price, without disclosing the latter's long-run tendency. With the ADD, DM explains the tendency of the nominal ER to appreciate in the short run, which valorizes the real ER up to a point that, although guaranteeing the current account equilibrium, makes unfeasible economic sectors which are not intensive in cheap labor or natural resources.

Bresser-Pereira et al. (2016) state that the appreciation of the market real ER is even greater than that related to the ER current account equilibrium, because of the economic policies the LME adopt, which maintain the market real ER valorized along with constant current account deficits and expanding external liabilities. This process might outcome in cyclical sudden stops of capital influx, causing ER crisis and real ER overshooting. When this happens, the ER reaches its MI level of equilibrium. Thereby, the real ER in LME appreciates cyclically, though it remains, during the cycle, more valued than the level that warrants the current account equilibrium.

Thus, all the literature just mentioned corroborates that nothing impedes that the LME market real ER long-run tendency is of depreciation rather than the opposite, as DM strongly states. Indeed, the market real ER may present a cyclical dynamic of depreciating around its MI and current account equilibrium values, i.e., the long-run tendency of these values is of depreciation, as Figure 4 reports. Considering that, DM's ingenious theorization of the ER set and its explanation for

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[7] Resende (2006) presents further details of Lemos (1988).

the LME's real ER cyclical behavior are preserved, without confronting the relevant stablished literature about the real ER depreciation tendency in the LME.

Figure 4: Market, Current and MI real ER in LME with ADD
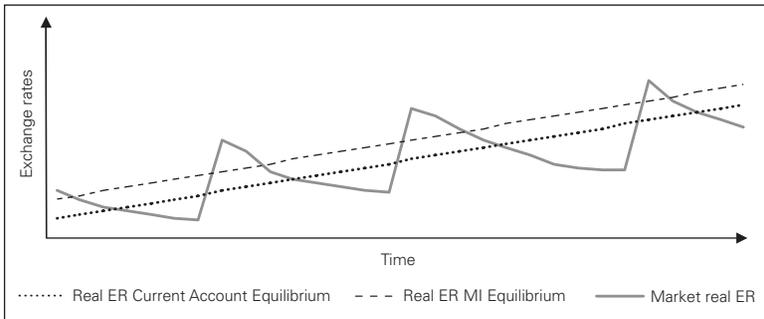
Source: Authors' own elaboration.

As we stressed, the most-known empirical observation does not grant an undoubtable conclusion about the real ER tendency in LME. So, as DM does not furnish a theory about the long-term determinants of tradable and non-tradable goods' prices and as the relevant literature has several models to interpret the evolution of these relative prices' in the LME, all asserting the real ER long-run devaluation, DM should change its argument, without swapping their conclusions though.

We believe it would be better for DM to argue that the LME's ADD would build two situations up: (i) pushing the real ER to its current account equilibrium level and so creating a barrier to the development of the MI – DM's argument; (ii) in the LME, the real ER levels of MI and current account equilibriums depreciate over time whereas the market real ER cyclically oscillates around these two levels. Lastly, since the reasons explaining the process of reducing national savings, and the substitution between national and external savings, are mistaken, as the previous Section of this paper showed, we suggest for DM to abandon this issue.

THE ADD AND DM'S ECONOMIC POLICY REGIME TO OFFSET IT

Another contribution DM offers to the literature is the concept of ADD. As the previous section showed, the real ER long-run valorization in LME is questionable. Further than the ADD appreciating the long-run real ER, DM in fact sums to the literature when it widens the types of Dutch disease in relation to its original notion, though ADD should be understood as a factor that may appreciate the real ER rather than being an inexorable process. DM offers a unique concept that aggregates the various reasons that may lead to an ER appreciation and its consequences, such as deindustrialization.

In Chapter 6, Bresser-Pereira et al. (2016) states that the ADD causes the ER

appreciation, beyond the original concept of natural resources curse, by (i) rising the gap between wages and salaries of the skilled and unskilled working force, which makes a cheaper production feasible in the unskilled-workforce-intensive sectors and so permit current account equilibrium – this is greater when these economies incur in faster-than-their-international-competitor productivity gains (for instance, China and East Asia countries; however, DM argues they neutralized the ADD); (ii) income remittances made by immigrants (the cases of Mexico and Central America countries, DM states); (iii) in very poor countries, international aid may cause ADD (no examples given by DM). So, ADD is caused by these four factors.

Notwithstanding them and again contributing to the relevant literature, Bresser-Pereira et al. (2016) argue, as we mentioned earlier, that economic policies commonly adopted in LME help appreciating the ER. These policies are (i) growth *cum* external savings; (ii) high interest rate monetary policy to attract foreign capital (given reason (i)) and control inflation; and (iii) ER anchor. DM inserts these three policies in another remarkable concept, that somehow embraces the reason why policy makers undertake either one or a combination of them: ER populism. As these policies come from political decisions, DM correctly does not see them causing ADD, but bolstering its occurrence, not only because they appreciate the ER, but also for they do not offset it. So, DM rejects these policies as well as proposes others to offset ADD.

The main policy that DM recommends to neutralize ADD is levying a tax over the country's Ricardian rent sectors, increasing their production cost from a level correspondent to the current account equilibrium ER to a more depreciated MI equilibrium ER level. The logic of levying the tax is making the value of the country's ER higher, as it derives from the production cost of the goods domestically made with competitive advantages in the international market – in terms of Ricardian rents, those goods bearing flatter production cost. MI, without Ricardian rents, produces costlier and has higher goods' prices than those of its international competitors. The tax increases the production costs of the Ricardian rents sectors up to the MI production cost, leveling the ER at the MI equilibrium.

DM suggests that this kind of fiscal policy with ER impacts should be followed by three other policies, namely a fiscal one pursuing budget equilibrium in a Keynesian way, a monetary policy that keep the interest rate in a level incapable of provoking external capital influxes and an ERP of capital controlling. To avoid the ER appreciation by the attraction of external savings, fiscal and monetary policies maintain the country's interest rate in a position that does not create a significant differential in relation to those prevailing internationally. Capital controls either disable or diminish foreign capital speculative movements, helping managing the ER and the monetary policy's interest rate.

DM also broaches a long-term mechanism to avoid ER appreciation, given the expected accumulation of current account surpluses from the DM policies framework. This mechanism is a sovereign fund, which would make foreign investments

using the ER reserves so that ERP would control the ER price.[8] Again counting on the resources the tax assembles, DM also suggests creating a stabilization domestic fund to compensate the local commodity producers for international shifts in their goods' external prices.

In its general setting, this economic policy framework seems to work well to accomplish DM's goal of facing ADD off. Still, DM needs to further develop on some issues concerning its economic policies. The main criticism we forward in the four problems we point out below is that DM's economic policy propositions are too broad yet, except for the ERP. Monetary and fiscal policy are in a preamble hitherto, not only in terms of their internal procedures but also regarding the co-ordination amongst them, not to mention that even the ERP coordination with the other policies is still cursory.

First, Bresser-Pereira et al. (2016) are aware of the difficulty of reducing the interest rate, mostly under the Inflation Targeting Regime, which has the Central Bank interest rate as the monetary policy tool *per excellence*. Thinking of this to the Brazilian economy, the problem is that this only (or mainly) one tool must face an inflation caused by two big pushers, namely supply side (cost) factors, like the ER, and demand pressures, and maintained through time because of the presence of inertial components. The outcome could not be other than a hard-to-change high level of the Central Bank interest rate, as Bresser-Pereira and Nakano (2002) argued. This is even more complicated if DM model is expected to work in Brazil, where the short- and long-run debt market were merged during the country's inflationary period, problem that has not been corrected when inflation was suppressed and is still making the short-term interest rate of the public debt, that is negotiated at the money market, depart from a long-run level, which is high per its own nature, given the risks of the long-run.

Besides these domestic troubles of the interest rate determination, Dow (1993, cap. 11) explains that in LME, uncertainty and liquidity preference are higher and their capital market as well as its funding mechanisms are undeveloped, making long-term financing scarce and costly. Also, when global markets prefer liquidity, the asymmetric Minskyan international financial system strongly reduces the foreign capital flows to LME. Moreover, as Fritz et al. (2016) assert, the international monetary system have a currency hierarchy, which resembles the international system's power asymmetries, as Keynes (1980) emphasized. The most liquid currency stands at the hierarchy's top and plays the three functions of money at the global level: means of exchange, unit and storage of value. Other liquid currencies have intermediary positions at the hierarchy and at its base are the LME's illiquid ones, bearing lower liquidity, higher volatility and larger interest rates than the developed

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[8] In another noteworthy aspect, DM argues all its economic policies may just work accordingly to what it calls the 'political economy of devaluation'. ER value and price's variations transfer wealth between economic classes. Policies willing to promote and keep a depreciated ER should pay attention to this aspect at the expense of being unable to achieve its aims due to the 'political economy of devaluation'.

countries.[9] Thus, there are the deleterious effects of the policies of high interest rate and ER anchor upon the real ER, but the other motives we list also play a relevant role for the usually high interest rate level in LME. So, reducing the level of the interest rate in LME is not as easy as DM theoretically requires.

Second, if DM's ERP works well, current account surpluses are expected at some time. Bresser-Pereira et al. (2016) are again aware of this and they ask for constituting a sovereign fund to promote investments abroad, carrying the excess of foreign reserves away. However, doing so has costs which are borne, ultimately, by fiscal policy. Even if DM proposes that the amount gathered with the tax on the Ricardian rent sectors finance the fiscal costs, nothing assure that both amounts would be equal. Moreover, in the long-run, when the productive sophistication is achieved and the country's firms supposedly compete only through technology, the cost of buying reserves would be much greater than the tax collection, which shall disappear in the long-term as the MI firms are expected to be competitive. Concomitantly, DM comes up with the necessity of budgetary surpluses. So, what would be the size of the ERP at the public budget? Given the hard task of reducing the interest rate level in LME (Brazil surely included) and so its differential to the average international interest rates, would not the cost of conveying international reserves be too high? What does DM suggest to overcome this?

Third, DM very well elaborates on the difference of ER's value and price. When arguing in favor of levying a tax to increase real ER's value, DM says the tax changes accordingly to ER price's variations. Howbeit, international markets shift the ER price, perhaps in a speed that ERP cannot meet. Moreover, it should not meet, as this means a constant change of tariffing, something that increases not only the transactions costs of making business but also the uncertainty prevailing about the future tax policing. Although this would hold for the Ricardian rent sectors, DM's objective is not ridding them of the economy, but making MI strong. Thereby, the solution DM advances to neutralize ER's price movements may damage the economy. Capital controls, which DM also indicates a country to undertake, may reduce both the volatility and the strength of ER's prices, but they are unable to fully avoid them.

Fourth, DM needs to go further on industrial and technological policy prescriptions, because productive sophistication relies on them. LME have not got spread national systems of innovation and it is hard to imagine that only the ER incentive builds several technological trends up. No developed country reached this position with solely incentive policies, as it is the ERP DM proposes. Furthermore, DM has also to position the industrial and technological policies into the public budget once they, considering DM's model, would become one of the most relevant

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[9] Fritz et al. (2016) adjoin three other issues that pressure LME's interest rates up and relates to the coordination amongst monetary policy and ERP (i) the low credit channel efficiency, (ii) the depressed wealth effect given the mediocre development of the capital markets, and (iii) the larger pass-through effect from exchange rate changes to local inflation.

state action to promote development. This is important because fiscal policy is much more than just suggesting budget surplus or equilibrium. How to accomplish this amongst all other suggested policies is something DM should account for.

Notwithstanding these four points we criticize, we highlight again that these clearly are neglect by Bresser-Pereira et al. (2016) because of their option of presenting DM in its simplest manner, to make it reachable for those who are not lectured in Economics. As mentioned before, DM is still in construction and their leaders acknowledge us of this. In between these future needs are more specific, better detailed and well-coordinated measures of economic policies.

FINAL REMARKS

DM contributes to the economic literature in some points, mainly those related to the ER cyclical behavior, in which the ER set, the difference between the ER value and price, the concept of ADD, the ERP to neutralize the ADD are the most relevant additions DM offers to the economic theory.

DM is a positive research agenda, that has several branches to be developed to construct a full model that explains why some LME do not reach sustainable growth. Still, the developments Bresser-Pereira et al. (2016) say should take place in DM, such as its microfoundations and political economy, can solve theoretical problems its macroeconomics did not account for so far – it is arguably, by the way, that more advances in the economic policy framework would add much to DM.

DM has its own method, the historical-deductive, which was developed by Bresser-Pereira (2009, 2012), has its original starting point, noticing the limit the LME have to keep growing steadily, has its laborious model to explain why the latter happens and how to surpass it. Understanding criticism as seeing what was not seen yet, as we undertake in this assessment, helps developing the full potential of DM, whose leaders have been advancing its agenda for a long time, and have just recently really started to compound a systematic model evolving all the ideas they had worked out since long ago.

DM is a positive agenda which can turn itself in a school of economic thinking dedicated to not only contemplate why LME that faces ADD have a boundary to reach the status of a developed country, but to promote this development. To conclude, DM has been in ascendancy and it would be good to the Development Economics if the DM recent trend keeps going forward, making it a school of thought for LME.

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