3 Anarchic accumulation, un-effective demand and institutional constraints

Oskar Lange's critique of capitalist dynamics in the core and the periphery

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1 Introduction

Since the epistemological foundations of his scientific production, dated 1935, Oskar Lange clearly identifies three controversial aspects of capitalist dynamics: the irrational accumulation of capital, the un-effective level of the demand and the constraining role played by capitalist institutions (first and foremost, the private property of the means of production and the division of society into classes) on the economic process. The result is a detailed critique to the core-capitalist dynamics contained in his 1938 article "The Rate of Interest and the Optimum Propensity to Consume". Two decades later, Lange finally focuses on the underdeveloped countries and elaborates also a harsh criticism of peripheral-capitalism, both from a theoretical point of view and in terms of policy.

In light of such a premise, this chapter aims first to critically reassess the main contents of Lange's analysis of capitalist dynamics (as exposed in 1935–1938). Second, to analyse the rather obscure contents of Lange's reflection on underdeveloped economies (dated 1960–1964), also in order to clarify any plausible source of inspiration. Finally, to show that this latter was but a logical consequence of his previous critique to (core) capitalist economies. In more detail, in Section 2 we expound the foundations of Lange's critique of capitalist dynamics; in Section 3 we highlight the features of Lange's 1938 analysis of capitalism, both from a static and a dynamic point of view; in Section 4 we examine Lange's analysis of the peripheral economies. Finally, in Section V, we draw some conclusions, suggesting that his reflection on underdeveloped economies represents a particular case of Lange's broader beliefs on capitalism, influenced by his Marxist background.

2 The foundations of Lange's critique of capitalist dynamics[1]

Already in his 1935 article "Marxian Economics and Modern Economic Theory", Lange denied that neoclassical theory may provide a satisfactory description of the intrinsic development of capitalist economies. Since it investigates the economic process "under a system of constant data", such an approach completely ignored both the characteristics of the data (which became the object of economic statistics) and changes in the data (the object of economic history). Therefore, traditional economics was likely to consolidate the view that capitalist economies were *naturally* stable:

> It was very generally held among "bourgeois" economists both at the beginning of the twentieth century and in the years preceding 1929, that the economic stability of Capitalism was increasing and that business fluctuations were becoming less and less intense.
>
> (Lange 1935: 190)

Lange thought that the only way to correct such a bias was to define the assumptions related to the institutional framework within which the economic process operates. His thesis was that Marxian economics could offer an adequate framework both to understand this process and to translate an institutional datum (i.e. the existence of a capitalist society) into the "language" of economics.

At this stage, Lange was persuaded that *Capital* (meant as a social relation of production) was the key concept for treating the problem of capitalist dynamics. However, he was also aware that this social relation had a dual dimension in dealing with both the struggle between capitalist and workers, and the competition among the capitalists themselves. Therefore, Lange adopted a dual perspective on the interaction between the dynamics of income distributive shares, investment and technological change.

On the one hand, he recalled the essentials of Marx's analysis of the business cycle (Lange 1935: Section 8), based on the traditional issue of the *industrial reserve army*. According to Lange, technical progress is thus accompanied by a surge in unemployment followed by the fall in real wages, which eventually restores the profit rate:

> For Capitalism creates, according to Marx, its own surplus population (industrial reserve army) through technical progress, replacing workers by machines. The existence of the surplus population created by technical progress prevents wages from rising so as to swallow profits. Thus technical progress is necessary to maintain the capitalist system and the dynamic nature of the capitalist system, which explains the constant increase of the organic composition of capital, is established.
>
> (Lange 1935: 199)

On the other hand, Lange emphasizes the pivotal role played by the unequal distribution of income in a capitalist economy, which in turn is related directly to the "irrational" accumulation of capital. Since the distribution of income is an historical datum which occurs "independently of the requirements of the maximisation of social welfare" (Lange 1937: 123), in a capitalist economy the amount of saving will be determined independent of the demand for investment. In fact, it will be a result of both social habits and the historical distribution of income (since low-income classes are unable to save at all). As a consequence, the accumulation of capital will necessarily be affected in a detrimental way: "saving is … in the present economic order determined only partly by pure utility considerations, and *the rate of saving is affected much more by the distribution of incomes, which is irrational from the economist's point of view*" (Lange 1937: 127, emphasis in original).

In a sketch, according to Lange these are the two nodes of the problem that must be unraveled in the analysis of capitalist dynamics: since the real wage cannot increase above the subsistence level, workers' savings are assumed to remain negligible relative to capitalists' savings. As a consequence, the higher the profit share, the higher will be the savings rate. This means that any innovation that strengthens the profit share will be accompanied by a rise in the savings rate. Since technical progress is a mere historical datum, it is therefore impossible to impose a different savings rate from the rate determined by the operation of the cycle which, unfortunately, is "irrational".

Furthermore, Lange stressed that the dynamics of these (topical) economic "data" was likely to interact with institutional factors. Accordingly, this became the field of his application of historical materialism:

> the full evolution of Capitalism in all its concreteness cannot be explained by a theory of economic evolution alone. It can be explained only by a joint use of both economic theory and the theory of historical materialism. The latter is an inseparable part of the Marxian analysis of Capitalism.
>
> (Lange 1935: 201)

We can thus sum up that, since the epistemological foundations, Oskar Lange clearly identifies three controversial aspects of capitalist dynamics: the irrational accumulation of capital, the un-effective level of the demand and the constraining role played by the capitalist institutions (e.g. the private property of the means of production) on the economic process. In the following section, we are going to show that all of these elements represented the cornerstone of Lange's 1938 theory of interest, in which he analyzed the (dis-)functioning of the core-capitalist economies, both from a static and a dynamic point of view.

3 Why is core-capitalism contracting? Lange's 1938 theory of interest

Given such premises, after the publication of the *General Theory* Oskar Lange believed that the analytical apparatus created by Keynes could have been a useful tool to cope with the problems of capitalist dynamics, evidenced by the 1929 breakdown. In his 1938 paper "The Rate of Interest and the Optimum Propensity to Consume", he developed a mathematical re-interpretation of the Keynesian system.

Above all, he stressed a fundamental relationship between net investment and the level of consumption (equation 3.3):

> Mr. Keynes treats investment and expenditure on consumption as two independent quantities and thinks that total income can be increased indiscriminately by expanding either of them. But it is a common place which can be read in any textbook of economics that the demand for investment goods is derived from the demand for consumption goods. The real argument of the under consumption theories is that investment depends on the expenditure on consumption and, therefore, cannot be increased without an adequate increase of the later, *at least in a capitalist economy where investment is done for profit.*
> (Lange 1938: 23, emphasis added)

By introducing the level of consumption as an argument in the investment function Lange departed from Keynes's analysis of long-term expectations, contained in Chapter 12 of his *General Theory* (as Keynes argued that long-term expectations were merely exogenous, which amounts to assuming that investment is insensitive to current levels of output consumption or national income). To this extent, Lange's model clearly recalls the contents of his aforementioned analysis, dated 1935: if we assume that both effective demand and the level of saving (i.e. the rate of accumulation) determine capitalist dynamics, then the level of investment must necessarily depend on consumption.

To enter more into details, Lange's "Keynesian" model can be summarized by the following four equations.

$$\frac{M}{P} = L(i,y)L_i \leq 0, L_y \geq 0 \tag{3.1}$$

$$c = \varphi(y,i)0 < \varphi_y < 1\varphi \gtrless 0 \tag{3.2}$$

$$I = F(i,c)F_i < 0, F_c > 0 \tag{3.3}$$

$$y \equiv c + I \tag{3.4}$$

where M is the amount of money held by individuals, y is total real income, i is the rate of interest, c is total expenditure on consumption per unit of time and I is investment per unit of time. According to Lange, M, y, c and I are measured in wage units. Since the amount of money M (in wage units) is given, these four equations determine the four unknowns c, I, y and i. The process of determination of the rate of interest is depicted by Lange in three consequential steps: with a given amount of money M_0 and a given initial level of income, say y, equation (3.1) gives us a rate of interest of i_0. With y and i_0 given, equation (3.2) determines total consumption, C_0, and equation (3.3) provides the level of investment, i_0.

If we find that the sum of total consumption and investment precisely equals total income – and equation (3.4) is confirmed – the system is in equilibrium, if not we must start on a process of adjustment until an equilibrium position in the economy is established.

However, Lange was evidently aware that, on a macroeconomic level of investigation, equilibrium would have been almost unattainable (Lampa 2013). By means of his crucial assumption – in equation (3.3) – of a direct relationship between consumption and investment, he stresses that an excessive growth in saving (i.e. an excessive contraction of consumption, investment and total income) cannot be counter-balanced by the subsequent decrease in the rate of interest, as it destroys any incentive to invest, "at least in a capitalist economy where investment is done for profit" (Lange 1938: 23). Therefore, Lange firmly rejects the "corollary of Say's law", according to which *any* abstinence from consumption implies automatically an increase in investment: according to him, such a direct relationship holds *only* until a certain limit (i.e. the *optimum* propensity to consume), beyond which the collapse of the effective demand will drastically diminish investment itself (ibid.: 14). Hence, the real issue of his under-consumption theory becomes the determination of the *optimum propensity to consume*, so as to maximize investment (and total income). However, capitalism would have acted as an insurmountable institutional constraint, to this extent:

> In a society where the propensity to save is determined by the individuals, there are no forces at work which keep it automatically at its optimum and it is well possible, as the underconsumption theorists maintain, that there is a tendency to exceed it.
>
> (Lange 1938: 32)

Furthermore, starting from Lange's pessimistic conclusions, as well as from a cryptic note (in which he explicitly stated that in the presence of time lags, the result will be not only disequilibrium but also cyclical fluctuations), it is possible to translate his 1938 theory of interest into a dynamic model of cyclical fluctuation, as we have shown in a previous work (Lampa and Assous 2013).

In the first part of our simulation, we developed precisely Lange's footnote in the most general case, that is by means of an IS-LM model, both assuming a linear investment function and by introducing time lags.

As in Kalecki (1937), time lags result from the un-coincidence between investment decisions (e.g. investment goods orders) and the actual investment activity, in the short run the stock of capital, K, and the level of investment, I, are given. Over the longer run, however, we have also assumed that investment changes according to

$$\mathrm{d}I/\mathrm{d}t = \theta[I^d - I] \tag{3.5}$$

Starting from these assumptions, we have shown that, when cycles do occur, their occurrence is related to both the slow adjustment of desired investment to actual investment and to the negative effect of capital stock on desired investment. If θ is infinitely large so that adjustment is very rapid, the economy will always be on the $\mathrm{d}I/\mathrm{d}t=0$, so that adjustment to the long-run equilibrium will be smooth as long as the determinant condition is satisfied. If the time lag between the investment decisions and the corresponding income is large relative to the rate at which the amount of equipment is increasing, the rate of investment decisions can continue to fall even below what corresponds to replacement, simply because the fall in income lags behind. Thus, the introduction of a time-lag between the investment decision and the corresponding income – in accordance with Lange's framework – is able to explain a cyclical movement even if the underlying situation is stable. In order that the cycle is not highly damped (i.e. that it does not peter out too quickly in the absence of new disturbing factors), we only need to assume that the effect of current investment on total equipment is relatively large, such that the equipment added during the period of the time lag has a considerable influence on the profit rate, and hence on the investment decision.

In the second part of our simulation, we have also introduced a different assumption in terms of a non-linear investment function, which actually corresponds to Lange's original idea (Lampa 2013). In this case, the economy never reaches a stationary equilibrium and we can observe two different scenarios according to the existence of time lags (or not).

If there's a combination between investment lags and the non-linear investment curve, this is sufficient to produce *limit cycles*. When there is no investment lag, the underlying dynamics implies that there will be a catastrophic drop from the higher to the lower equilibrium, driven solely by the multiplier dynamic. Therefore we have shown that cycles can exist without investment lags.

From this point of view, Lange's dynamic model offers an interesting variant of Kalecki's model (1939). Kalecki's theory explained the business cycle in terms of fluctuations in the marginal return on investment, resulting from both the accumulation/decumulation of capital and from the effect of investment on income (Kalecki expressed the level of investment decision as an S-shaped function of income). This argument was justified absolutely by the evolution of expectation elasticity, assumed to be inelastic for extreme values of output and elastic for normal values. Indeed Kalecki suggests that entrepreneurs are assumed to be cycle-conscious, and hence more cautious in their investment decisions following a prolonged boom or a prolonged slump than at the beginning of one of these cycles. However, Kalecki assumes that the multiplier coefficient remains constant during the entire course of the cycle, thereby relying entirely on the non-linearity of the investment function to show the intrinsic instability of capitalism. It is precisely this assumption that Lange and Kalecki disagreed about:

> There is no a priori reason why this [relationship between national income and investment] should be a straight line. Mr. Kalecki takes it to be a straight line because his statistical investigation has yielded a linear relationship for the United States in the period 1924–35 (pp. 73 and 136). Since we do not know whether this relationship is linear in other years or in other countries, this restricts unnecessarily the generality of Mr. Kalecki's argument.
>
> (Lange 1941: 284–285)

Unlike Kalecki, Lange based his cycle analysis on the dynamics of income distributive shares and, eventually, the dynamics of the saving rate. In paying more attention to the saving rate, Lange was less bound than his Polish fellow countryman to breaking with Marx's income distribution analysis. More generally, one can state quite legitimately that Lange's analysis of capitalist dynamics was closer to Marx's view expressed in Volume 2 of *Capital*, according to which equilibrium is an event possible *in theory* but almost unattainable *in practice*, at least in a capitalist society.

4 Capitalism's constraints and the peripheral countries

Between 1956 (his appointment as Professor of Economics at the University of Warsaw) and 1964 (his retirement), Oskar Lange was an advisor for several governments of underdeveloped countries, which were implementing multi-annual *plans* and/or reshaping their own institutions in a socialist way.

Yet in 1951–1952, Lange could repeatedly travel to Iran, in order to cooperate with Mohammad Mossadeq's *developmentalist* cabinet which, in those days, was nationalizing the Anglo-Iranian oil company. However, his first official appointment as an advisor was in India, in 1955–1956, during the drafting of the second quinquennial plan (1955–1960). In the same occasion, Lange moved also to Sri Lanka, as a consultant of Solomon W.R.D. Bandaranaike's government, which were promoting socialist policies after winning the 1956 elections. Finally, in 1961, Lange gave several speeches at the Central Bank of Egypt and actively cooperated with Gamal Abdel Nasser's government, notoriously aimed at creating an *Arab Socialist Union*.

At this stage of his academic career Lange was evidently persuaded that, after World War II, it was no more sufficient to study the problem of economic equilibrium taking economic development for granted, for two orders of reasons. On the one hand, the emergence of a series of socialist economies (China, Eastern Europe) which previously were underdeveloped countries. On the other hand, the victorious national revolutions of many former colonies, which considered economic development to be their chief problem. In other words, the whole problem of underdeveloped countries became "*the* major international problem" (Lange 1963: 6, emphasis in original). Therefore development economics had to become a fundamental issue in economic analysis.

In the following paragraphs, we are going to show Lange's reflection on development, analyzing both its analytical contents and its implications in terms of policy. In both cases, we are going to highlight the continuity with many issues previously raised by Lange, in the aforementioned 1938 work on the core-economies' dynamics.

4.1 The dilemma of underdeveloped economies

In 1960, Oskar Lange provides a definition of underdeveloped economy, meant as: "an economy in which the available stock of capital goods is not sufficient to employ the total available labor force on the basis of modern technique of production" (Lange 1960: 33). By means of an algebraic formalization (which evidently recalls several Marxian categories, first and foremost the *organic composition of capital*), he also explores deeper into details such a definition. Given the value of the stock of capital goods c and the value of the total labor force employed v, the average degree of capital intensity is:

$$\alpha = c/v \tag{3.6}$$

If N is the total labor force employed and w the average wage rate, we have:

$$v = Nw \tag{3.7}$$

Then, the total employment is:

$$N = c/\alpha w \tag{3.8}$$

Therefore, denoting by N_0 the total available labor force, Lange concludes that the economy is underdeveloped whenever $N < N_0$. Accordingly, the ratio N/N_0 can be considered as a measure of the degree of underdevelopment.

Lange's definition of an underdeveloped economy immediately reveals the dilemma that any peripheral country has to face in order to develop: starting from equation (3.8), there are only two possible ways to increase the total employment, as w cannot be reduced below the "subsistence minimum". In the first place, α may be reduced adopting a backward and *labor extensive* technique of production. However, Lange emphasizes that such a choice implies a very low productivity and, therefore, a very low per capita real income. As a consequence, the economy would cope with both an insufficient effective demand and a small economic surplus, which in turns implies an insufficient accumulation of capital.

In the second place, c must increase so as to use a modern and *labor intensive* technique of production. However, if this process is not accompanied by an increase in the accumulation of capital proportional to $N_0 - N/N$, it implies the unemployment of part of the labor force, because the existing capital goods do not suffice to reach the full employment of the existing workingmen. Therefore, Lange concludes that also in this case underconsumption and an insufficient economic surplus will affect the economy in a prejudicial way.

In other words, Lange emphasizes that the real issue in development economics lays in the accumulation of capital, which is normally insufficient to allow an increase in c because of the slenderness of the economic surplus. Furthermore, the existing surplus is not even fully utilized for capital accumulation because of some additional problems specifically related to peripheral economies.

First, Lange blames the existence of an "old feudal ruling class" which uses the small existing surplus for unproductive purposes, that is for consumption of imported luxury goods, instead of accumulating capital. Second, he focuses on the existence of a former colonial administration which has turned into an expensive and over-sized bureaucratic elite, which absorbs the remaining part of the surplus. It is worth noting that, in both cases, Lange is endorsing two issues previously raised by Raúl Prebisch. In his well-known 1949 CEPAL "manifesto" ("El desarrollo economico de la America Latina y algunos de sus principales problemas"), Prebisch stated:

> the typical scarcity of saving, in a large part of Latin America ... originates ... also from its inadequate use, very frequently. Saving means stop consuming, and therefore it is incompatible with certain types of consumes, typical of high-income groups.[2]
>
> (Prebisch 1993, vol. IV: 528)

Furthermore, Prebisch blamed also the disturbing role played by the existence of an over-sized bureaucratic apparatus on the accumulation of capital (ibid.). Therefore, an open question arises as to whether the Argentinian economist played any influence on Lange, also in light of the several charges that Lange performed in the United Nations, in the very same years (Kowalik, 2008).

Third, Lange stresses the profit-taking role performed by foreign capitals, emphasizing that foreign companies usually come to the underdeveloped countries as monopolistic firms whose profits are taken out and used for the economic development of the countries of origin. In this case, Lange is evidently making reference to traditional issues of the theory of imperialism (Lenin; Luxemburg),[3] meant as the highest and predatory stage of monopoly capitalism: his analysis suggests that foreign capitals are attracted by underdeveloped countries mostly because their *process of valorization* is increasingly ineffective in the advanced economies.

According to Lange, the interaction of all these elements determines the typical features of any underdeveloped economy: capital extensive techniques; low incomes; insufficient effective demand; large-scale unemployment of the small producers affected by both the competition of the industrial sector and the import of consumption goods from the developed countries.

Therefore, only an intensification of the accumulation of capital can guarantee the rise in the degree of employment, the productivity of labor and, therefore, the national income. However, in order to achieve such a result, it is necessary to remove a long series of institutional obstacles.

4.2 The economic policy of development

"[W]e plan economic development, because economic development would *not*, underexisting historic conditions, take place automatically. Consequently, it *must* be planned" (Lange 1963, emphasis added). Given the aforementioned analytical premise, Lange explores its implications in terms of economic policy for the developing countries.

In the first place, he emphasizes that the early stage of development is the most problematic phase, as plenty of machinery and raw materials are needed.

Nevertheless, the national industries are not yet ready to provide sufficient products for export. As a consequence, the balance of payments is affected by an external constraint. In order to overcome this obstacle, Lange recommends that the basis must be the internal accumulation of capital rather than foreign borrowing:

> it must be clearly realized that economic development … cannot be based on foreign aid … [because] if we really want to develop all that part of the world in which 46 percent of humanity live, then the capital resources which … the leading countries … can put at the disposal of such a development are insufficient.
>
> (Lange 1963: 32)

In order to mobilize internal resources for investment, Lange proposes a series of radical economic policies. First, the nationalization of finance, industries and trade, and the use of their profits for productive purposes. Alternatively, for those countries who do not wish to experiment a transition de facto to a socialist system, he proposes the nationalization of natural resources and the use of their profits together with a selected use of foreign trade, consisting of exporting raw materials and of importing machinery and high value-added commodities, rather than adopting a hard-core protectionism motivated by the traditional "infant industry argument". It is worth noting, again, that also this issue played an important role in the aforementioned Prebisch's "manifesto": "if the purpose [of the industrialization] is to increase what has been properly defined the measurable welfare of the masses, it must be considered the limit beyond which a deeper industrialization could imply a decrease in productivity"[4] (Prebisch 1993, vol. IV: 496).

Second, Lange recommends "a period of austerity"[5] especially for those countries which do not own natural resources: a dramatic cutting down of imports of consumer goods (particularly if luxury goods) in order to allow the import of producer goods and raw materials. However, a similar substitution of imports should also be accompanied by a strong inducement of private savers to undertake productive investment. Accordingly, Lange proposes a taxation of unproductive uses of wealth; the restriction on distributions of profits which are not aimed at productive investment and, even, compulsory loans. One may notice that, differently from 1938, once he refers to the peripheral countries Lange accepts Keynes's idea that *any* increase in saving an obstacle for productive investment, thus proposing a gradual "euthanasia of the rentier" (Keynes 1973: 374–377). In short, in the underdeveloped countries, the real issue becomes how to contrast any form of unproductive use of wealth.

Third, Lange encourages the implementation of agrarian reforms aimed at a radical redistribution of the land's property. In his mind, such a measure can effectively contrast the wide-scale unemployment which normally affects the agrarian region of the underdeveloped countries. Furthermore, in return to the improvement of their condition, the peasants can be required to contribute to the state finance, by means of taxation. Therefore, it is from the vast agricultural population that a part of capital accumulation may come in the first stage of industrialization (Lange, in Sachs 1964: ix). To the writer's eye, this idea evidently originates from Lange's observation of the case of the People's Republic of Poland, which somehow imitated the successful experiment of the NEP (New Economic Policy), previously implemented by the Soviet Union between 1921 and 1929.

Of course, the mobilization of capital resources implies also another, crucial, problem that is the direction of investment. From this perspective, Lange does not believe that market can guarantee spontaneously the best allocation of capital resources. On the contrary, he is persuaded that any underdeveloped country, whether it chooses a socialist organization of the economy or not, should adopt a rigorous and strategic planning of the investment.

In particular, Lange emphasizes that the best solution for a developing country is represented by the concentration of investment in the "production of means of production", that is in those fields which determine the most rapid increase in the productive power of the economy.

However, he strongly recommends two types of complementary investment. In the first place, it is necessary to invest in agriculture to increase food production, in order to create an agricultural surplus which is indispensable for feeding the (growing) non-agricultural population. Second, also an investment in industries producing consumer goods is required, both to raise the standard of living and to prevent the risk of an inflationary process, due to the uncoordinated rise in the income of the population and the available amount of consumer goods. Finally, it is necessary to invest in the economic infrastructure of the country, however Lange seems skeptical about the short-term productive repercussions of large investment in this field for an underdeveloped country. According to him, infrastructure should advance gradually, together with the industrialization and not precede it: "[Infrastructures] by themselves … are not a factor bringing about development" (Lange 1963: p. 20).

From this perspective, Lange evidently endorses the "heterodox" theory of Albert Hirschman (1958), according to whom the inadequacy of the infrastructures can affect the economic development only if production has previously increased, otherwise it is a relatively unproductive use of the capital resources. That is, Lange is persuaded that infrastructure is a *necessary* but not a *sufficient* condition for development.

Finally, Lange reflects about the institutional implications of his proposals: since they state that economic development depends on a nationalized sector and its more rapid growth than that of the private sector, they are compatible both with a socialist and a state-capitalism. In the first case, the nationalized sector becomes the starting point of a broader transformation of the economy whereas, in the second, it is an instrument for the promotion of capitalist interests. In a broad sense, he recognizes that both these scenarios represent a progressive phenomenon, able to increase the standard of life of the population. This notwithstanding, state-capitalism cannot sustain development for a long period, because the very idea of a nationalized leading-sector is not compatible with a capitalist economy. Therefore, it must be necessarily reduced to a subsidiary role in the mid-term, so that in the long term it ceases to stimulate economic development at all.

In a sketch, we can thus conclude that also with respect to development economics, Lange is persuaded that capitalism acts as an institutional constraint, rather than a self-adjusting economy able to guarantee full employment of the resources.

5 Concluding remarks

The analysis developed in this chapter can be interpreted as both a reassessment of Lange's critical analysis of (core and peripheral) capitalist dynamics – which in addition aims at reconstructing his most plausible sources of inspiration – and an interpretation of the relationship between Lange's early and mature beliefs on these crucial subjects.

With respect to the first issue, we have shown that in the period 1935–1938 Oskar Lange clearly identifies three controversial aspects of capitalist dynamics: the irrational accumulation, the insufficient level of the demand and the constraining role played by the capitalist institutions on the economic process. In particular, we have highlighted that, by means of a crucial assumption of a direct relationship between consumption and investment, Lange is able to show that an excessive growth in saving destroys any incentive to invest and, therefore, that he firmly rejects the traditional "corollary of Say's law". Furthermore, we have exposed the most important features of Lange's dynamic model, stating that it offers an interesting variant of Kalecki's model (1939), as, unlike Kalecki, Lange based his cycle analysis on the dynamics of income distributive shares and eventually the dynamics of the saving rate, that is on the income distribution analysis. Finally, we have expounded that, according to Lange, the real issue in development economics lies in the accumulation of capital, which is normally insufficient to allow an increase in capital resources both because of the slenderness of the economic surplus and because of some additional problems related to the structure of the demand in peripheral economies. In turn, we have suggested that a similar analysis may have been influenced by some important and "heterodox" development economists, such as Raúl Prebisch and Albert Hirschman.

With respect to the second issue, we can thus conclude that Lange's analysis of core and peripheral dynamics shows a remarkable continuity: in both cases, instability and backwardness are induced by the anarchic accumulation of capital and by the permanent inequality in the distributive shares, which in turn affects both saving and the structure of consumption. As a matter of fact, Lange is persuaded that capitalism acts as an institutional constraint, rather than a self-adjusting economy able to guarantee full employment of the resources, in any given circumstances.

However, we can also observe a difference in grade between the two scenarios, as Lange radicalizes both his analyses and his policy proposals when making reference to the underdeveloped countries. After all, due to his Marxist background, he was persuaded that it is in the periphery that capitalism reveals its most authentic and ruthless nature.

Notes

1 Some content of this section and the next has been anticipated in previous work by the author (Lampa and Assous 2014).

2

> la escasez típica de ahorro, en gran parte de América Latina … proviene … también de su impropia utilización, en casos muy frecuentes. El ahorro significa dejar de consumir, y por tanto, es incompatible con ciertas formas peculiares de consumo en grupos con ingresos relativamente altos.

3 More precisely, we are making reference to Lenin's *Imperialism, the Highest Stage of Capitalism* (1963) and Luxemburg's *The Accumulation of Capital* (1951).

4

> si el proposito [de la industrialización] consiste en el aumentar lo que e ha llamado con justeza el bienestar mensurable de las masas, hay que tener presentes los limites más allá de los cuales una mayor industrialización podría significar merma de productividad.

5 Of course, we are not making reference to the contemporary meaning of this concept nor are we suggesting any proximity of Lange to *austerity* measures currently adopted by EU countries.

References

Hirschman, A.O. (1958), *The Strategy of Economic Development*. New Haven, CT: Yale University Press.

Kalecki, M. (1937), A Theory of the Business Cycle, *Review of Economic Studies* 4(2): 77–97.

Kalecki, M. (1939), *Essays in the Theory of Economic Fluctuations*. London: George Allen & Unwin Ltd.

Keynes, J.M. (1973), *The General Theory of Employment Interest and Money*. London: Macmillan.

Kowalik, T. (2008), Lange, Oskar Ryszard (1904–1965), in Durlauf, S.N. and Blume, L.E (eds), *The New Palgrave Dictionary of Economics*, 2nd edn. London: Palgrave Macmillan.

Lampa, R. (2013), A "Walrasian Post-Keynesian" Model? Resolving the Paradox of Oskar Lange's 1938 Theory of Interest, *Cambridge Journal of Economics* 38(1): 63–86.

Lampa, R. and Assous, M. (2014), Lange's 1938 Model: Dynamics and the "Optimum Propensity to Consume", *European Journal of the History of Economic Thought* 21(5): 871–898.

Lange, O. (1935), Marxian Economics and Modern Economic Theory, *Review of Economic Studies* 2(3): 189–201.

Lange, O. (1937), On the Economic Theory of Socialism: Part Two, *Review of the Economic Studies* 4(2): 123–42.

Lange, O. (1938), The Rate of Interest and the Optimum Propensity to Consume, *Economica* 5(17):12–32.

Lange, O. (1941), Review: Essays in the Theory of Economic Fluctuations, *Journal of Political Economy* 49(2): 279–285.

Lange, O. (1960), *Essays on Economic Planning*. London: Asia Publishing House.

Lange, O. (1963), *Economic Development, Planning, and International Cooperation*. Monthly Review Press, Pamphlet Series – no. 20.

Lenin, V.I. (1963), *Imperialism, the Highest Stage of Capitalism: A Popular Outline*, Selected Works, vol. 1, pp. 667–766. Moscow: Progress Publishers.

Luxemburg, R. (1951), *The Accumulation of Capital*. London: Routledge & Kegan Paul Ltd.

Prebisch, R. (1993), *Obras 1919–1949*, vol. IV. Buenos Aires: Editorial Fundacion Raúl Prebisch.

Sachs, I. (ed.) (1964), *Agriculture, Land Reforms and Economic Development*, with Preface by Oskar Lange, Studies on Developing Countries, vol. 2. Warsaw: Polish Scientific Publishers PWN.