

## *Furtado and the Structuralist-Monetarist Debate on Economic Stabilization in Latin America*

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At bottom, therefore, the inflation which accompanies economic development in our country is not a monetary problem (Furtado [1952] 1954, p. 143).

### **1. Introduction**

In January 1963 eighty economists attended an international conference on “Inflation and Growth in Latin America” held in Rio, including W. Arthur Lewis, Dudley Seers, Arnold Harberger, Osvaldo Sunkel, Mario H. Simonsen, Albert Hirschman, Nicholas Kaldor, Friedrich Lutz, Roy Harrod, Roberto O. Campos and Celso Furtado. The conference volume, edited by Werner Baer and Isaac Kerstenetzky (1964), has been regarded as the climax of a decade of intense debate between “structuralists” and “monetarists” about the interpretation of chronic inflation in some Latin American countries (especially Argentina, Brazil and Chile) and the design of proper stabilization policies (see e.g. Arndt 1985, p. 156). As described by one of the conference participants, “the confrontation of monetarists and structuralists occurred against the exotic backdrop of the Copacabana Beach, amid feverish speculation, rising prices, and an apparent slowing in the economic pulse of the Latin American colossus that had combined substantial inflation with an impressive rate of growth for over a decade. The substantial issue that ultimately would separate monetarist from structuralist was the identical issue confronting the nation: should Brazil attempt to control rampant inflation by adopting stabilization policies similar to those introduced in Argentina, Chile, and Peru?” (Davis 1966, p. 506). Celso Furtado, appointed Minister of Planning of Brazil in September 1962, had just finalized the text of the Brazilian economic stabilization program for the period 1963-65 (called “Three Year Plan for Economic and Social Development”; see Presidencia da Republica 1962), which he summed up at the Rio conference (Furtado 1964).

The adjectives “monetarist” and structuralist” were introduced by the Brazilian economist Roberto Campos (1961, p. 69) in his influential survey of the debate, who would also coin the names “monetarism” and “structuralism” (Campos [1964] 1967, p. 106). The Latin American structuralist-monetarist debate of the late 1950s and early 1960s, therefore, preceded the monetarist controversy that would dominate macroeconomics in the United States and Europe a few years later (see Laidler 2004, section 3). Indeed, it was only after Karl Brunner (1968) used the word “monetarism”, apparently independently of Campos, that it penetrated the macroeconomic literature of the northern hemisphere, although the meaning was to some extent distinct.

Latin American structuralists focused on the relation between economic development and inflation, which they interpreted as the outcome of unbalanced growth accompanied by changes in the composition of demand in economies with inelastic supply functions and relative downward rigidity of money prices. A relative price change is transformed into inflation because

of the existence of “propagation mechanisms” in the system, that is, the ability of economic agents to keep their shares in output, generally called “social conflict inflation”.<sup>1</sup> Instead of the structure of demand and supply, monetarists underlined their respective levels, with emphasis on excess aggregate demand caused by a sustained expansion of money supply associated with fiscal deficits. Despite the priority of demand factors, Latin American monetarists did not exclude cost-push inflation provoked by upward movements of supply schedules resulting from an increase in factor prices (see e.g. Gudin 1962). The debate, therefore, differed essentially from the demand-pull vs. cost-push discussion that was going on in the US and in the UK at the time, since the structuralist approach included both demand and cost elements. Moreover, changes in money supply were perceived by structuralists as largely endogenous to the inflationary process. Their starting-point was that, as far as the analysis of inflation in underdeveloped countries is concerned, “money itself is a veil”, as put by Juan Noyola 1956 (p. 646) in the debate that followed the presentation of his paper (quoted also by Danby 2005, p. 171) and reaffirmed in Julio Olivera’s (1964, p. 322) call to “lift up the ‘monetary veil’... to search beneath the monetary surface, into the underlying region of physical flows, real prices, and sectional disequilibria”.

Accounts of the monetarist-structuralist debate usually refer to the formulations by Noyola (1956) and Sunkel ([1958] 1960) - who advanced the distinction between basic inflationary pressures and propagation mechanisms - as representative of the structuralist position, and often single out Campos (1961; [1964] 1967) as characteristic of the monetarist stand (Seers 1962, pp. 192-95; Baer 1967; Thorp 1971; Kirkpatrick and Nixon 1975; Lopes 1979; Little 1982, chapter 5; Arndt 1985; Kay 1989, pp. 47-57; Craven 1994; Toye and Toye 2004, pp. 155-58; Rodríguez 2006, chapter 4). Noyola and Sunkel (born in Mexico and Chile respectively) worked at the economic development division of the United Nations Economic Commission for Latin America (known as CEPAL) in the 1950s. From 1950 to 1957 Celso Furtado was head of the development division, when he interacted with both Noyola and Sunkel. Furtado’s contributions to development economics are well-known (see Boianovsky 2008a and 2010), but, with a few partial exceptions (King 1965; Hirschman 1981, pp. 188-89; Bielschowsky 1988, pp. 172-78; Hunt 1989, pp. 134-37; Love 1996, pp. 160-62; Mallorquín 1998, pp. 40-45) his participation in the structuralist-monetarist debate about inflation and stabilization is generally omitted in the secondary literature.

Furtado ([1952] 1954) was probably the first to relate inflation to the growth pattern of Latin American countries since the 1930s, whose main feature was import-substituting industrialization. His 1954 interpretation of inflation dynamics in Brazil brought to the fore the notion of passive money as well as the effects of inflation on intersectoral income distribution in an open economy. In contrast with Noyola’s and Sunkel’s writings about inflation in Chile, the Brazilian historical experience led Furtado ([1960] 1967) to discuss how inflation played a positive (if unintended) role in the industrialization of Brazil. The monetarist interpretation of Latin American inflation grew out of the International Monetary Fund (IMF) attempted orthodox stabilization programs in Argentina, Chile and some other countries in the region.

It was clear to Furtado that the monetary approach to the balance of payments was the analytical foundation of the Fund’s interpretation of macroeconomic disequilibrium in Latin America. The development of the monetary approach to the balance of payment in the 1950s proceeded independently of the later debates between monetarists and Keynesians (see Nobay and Johnson 1977, p. 480). Indeed, as pointed by one of its creators, it was the Latin American experience at the time that set off discussions at the Fund that led to the monetary approach

(Polak 1996, pp. 220-21). In his essay on “external disequilibrium in underdeveloped structures”, originally written for a professorship competition in Rio in 1959 and published as chapter 5 of his 1961 book, Furtado ([1961] 1964) put forward what has been regarded as the most elaborated structuralist argument against the application of the monetary approach to developing countries (see e.g. King 1965). Furtado’s 1952 argument that Latin American inflation was essentially caused by the disparity between the rates of growth of income and the capacity to import would be repeated by Seers (1962) in his restatement of the structuralist approach, without any reference to the Brazilian economist though.

Furtado’s views are also of interest because he formulated and tried to implement in 1962-63 the first structuralist stabilization plan in a Latin American country. Beside references to the connection between inflation and growth under balance of payments pressure, Furtado’s *Three Year Plan* was remarkable for its emphasis on fiscal deficit as an inflationary factor in Brazil since the late 1950s and for its suggested “gradualist” approach to stabilization, as opposed to the shock treatment favored by the IMF and some other economists at the time.

The matter of the timing of economic policy and the costs of stabilization was crucial for Furtado and other structuralist economists. One of the main assertions of Latin American structuralism was that any attempt to eliminate inflation, for a given economic structure, was bound to bring about a permanent reduction in the economic growth rate. The structuralist position was, therefore, based on the implicit assumption of a non-vertical long-run Phillips curve, with the proviso that the relevant tradeoff was between inflation and growth, instead of unemployment. From that perspective, the debate was not about the specification of the aggregate demand side - since both camps agreed that the velocity of circulation of money conventionally defined was basically stable - but on how to interpret the dynamics of aggregate supply and the relation between economic development and inflation (see also Campos 1961a, pp. 69-70; Lopes 1979; Bazdresch 1983, pp. 577-78; Bielshowsky 1988, p. 85).

## 2. From growth to inflation

Although the structural approach to inflation is often associated with CEPAL, it should be noted that it was never really part of the “official” doctrine of that institution, since it conflicted with Raul Prebisch’s (secretary executive of CEPAL from 1950 to 1963) more conventional interpretation of inflation in terms of demand-pull and cost-push elements (Rodríguez 2006, p. 116, n. 1).<sup>2</sup> Indeed, as recalled by Furtado (1985, p. 182; 1987, p. 203), “the dispute monetarists versus structuralists was born inside [CEPAL] itself”, when Prebisch opposed in 1954-55 the new insight that Furtado and Noyola were trying to develop. The “transformation” in CEPAL’s analysis of inflation from a dominant orthodox “monetarist” approach in the early 1950s to a relatively unorthodox “structuralist” one after the mid 1950s has been documented by Craven (1994), with no indication, however, of what caused the turning point. Furtado’s autobiography suggests that the rise of the structuralist interpretation took place around the time of Prebisch’s unsuccessful participation in the failed Argentine stabilization program of 1955-56 (see Diaz Alejandro 1965, pp. 134-45), when his influence at the institution weakened and the young economists seized the opportunity to push their own views about inflation (see also Toye and Toye 2004, p. 340, n. 107). In a revealing letter, Noyola wrote to Furtado in 1955 that

I’ve prepared a few notes about the study on inflation and development in Chile, according to what we had discussed, and advanced the main lines of the theoretical interpretation. From a methodological point of view, I have shown to this people that one can analyze inflation without mentioning “means of circulation”, “means of payment”

and other pure twaddle which still “circulate” at CEPAL. Prebisch’s reaction was very unfavorable. He thought he could avoid publication ... He accepted - at last! - that in order to analyze inflation it is not necessary to use monetary figures, asked me again my interpretation of Chilean inflation condensed in 5 pages, did the same to Jorge Ahumada and Osvaldo Sunkel... So, in less than 3 weeks, I’ve almost finished the production of the great theory of inflation (letter from Noyola to Furtado, 4 May 1955, Celso Furtado Archives; my translation from the Spanish original).

In August of that same year, Noyola (1955a) finished drafting a long typescript on “Inflation and Development in Chile”, which included a careful investigation of the role of the declining copper export sector in the inflationary process. As explained by Noyola (1955a, pp. 3-10), the shift of labour from a highly productive sector to others of lower productivity but similar wages had brought about a sustained cost pressure in the economy (see also Noyola 1956, p. 608; Sunkel [1958] 1960, pp. 116-17). This was close to the view later developed in the 1970s by some European economists that inflation is related to the fact that money-wages grow at the same rate in every sector despite intersectoral differences in productivity growth. Canavese’s (1982) comparison between this so-called “European structuralism” and the older Latin American structuralist tradition overlooks Noyola’s early analysis of the role of productivity differentials.

Noyola was Furtado’s closest intellectual interlocutor during that period (see Mallorquín 1998, p. 88; Furtado, 1985 and 1987, chapter 9). It is no surprise that Furtado’s 1952 statement that inflation is not a monetary problem would be repeated in Noyola’s (1956, p. 604; my translation) claim that “inflation is not a monetary phenomenon, but the result of disequilibria of a real sort, which show themselves in the form of increases in the general price level”. The remarks by Furtado and Noyola were made before Milton Friedman ([1963] 1968, p. 39) put forward his well-known proposition that “inflation is always and everywhere a monetary phenomenon”.<sup>3</sup> Furtado attended Noyola’s 1956 lecture in Mexico City and took part in the discussion that followed it, with a summing up of the interpretation he had advanced elsewhere of the inflation-growth nexus in the Brazilian economy since the late 1940s (see Noyola 1956, pp. 636-37; Furtado 1954, pp. 174-87; [1959] 1963, chapter 35).

Danby (2005, p. 173) has noticed similarities between the respective analyses of inflation in Furtado ([1959] 1963) and Noyola (1956), stating that Furtado’s treatment was a “useful illustration” of Noyola’s approach. However, Danby’s inference overlooks that chapter 35 in Furtado ([1959] 1963) is a reproduction of pages 174-87 of the 1954 book, which had been reviewed by Noyola (1955b). Hence, the influence, if any, was the other way around, as indicated by Noyola’s (1955b, p. 193) positive reference to the role of real disequilibria and passive money in Furtado’s framework. More likely, as Danby (*ibid*) recognizes, their ideas about inflation were developed together at CEPAL. Before joining CEPAL in 1951 Noyola worked at the research department of the IMF from 1946 to 1948. His experience at the Fund is reflected in Noyola (1949), where he essentially endorsed the conventional interpretation of inflation in terms of excess aggregate demand, and supported “domestic fiscal and monetary measures”, which he described as “very efficient to fight inflation” (Noyola 1949, p. 98). Hence, we may refer as well to a “transformation problem” in Noyola’s thought about inflation, and surmise that his interaction with Furtado after 1951 may have played a role in it.

Furtado’s ([1952] 1954) remark on inflation was part of his critical reaction to lectures delivered by Ragnar Nurkse in Rio in 1951 (see Nurkse 1953a). The Brazilian economist argued that investment criteria in developing countries should emphasize import substitution

industrialization, since those countries faced balance of payments pressure caused by the fact that demand for capital goods - which were largely imported - tended to increase more rapidly than income when the rate of economic growth went up. Since the importing capacity (that is, the exports quantum multiplied by the terms of trade) did not in average keep up with the growth of imports, as shown by Latin American economic history since 1930, the tendency to external disequilibrium became a feature of those economies.

According to Furtado ([1952] 1954, p. 143), “some economists, who are experts in turning economic problems into question of semantics, argue that the unbalance in question results from an inflationary situation”. The argument followed from the identification of the excess of imports over exports with excess of investment over saving, with ensuing excess aggregate demand and inflation. Furtado (*ibid*) criticized this reasoning for disregarding “that supply cannot increase and change its composition automatically with the expansion of and in sympathy with the change in the composition of demand”. The correction of those disequilibria is a “slow and almost always painful process”, which makes a “policy of stabilization difficult” and tends to make “inflation inseparable from the process of development” (*ibid*). The implications for economic policy in developing countries in general and Brazil in particular were clear enough:

At bottom, therefore, the inflation which accompanies economic development in our country is not a monetary problem. The basic cause of the unbalance is the disparity between the growth of income and the capacity to import. It is therefore indispensable, if this unbalance is to be rectified, to modify the structure of production so as to increase exports or to find substitutes for imports (Furtado [1952] 1954, pp. 143-44).

Nurkse (1953b, pp. 73-74) disagreed with Furtado’s suggestion to direct domestic and foreign investment to exporting and import substituting industries. According to Nurkse, it would not avoid inflationary tendencies and balance of payments difficulties, unless disequilibrium between aggregate supply and demand was eliminated. The second round of the Nurkse-Furtado debate would take place a few years later in Rio again, at the 1957 IEA conference (Ellis and Wallich 1961, pp. 273-74). In the recorded discussion that followed the presentation of Nurkse’s paper, Furtado disputed the view that additional savings would permit growth without balance of payment disequilibrium. Any shift from consumption to investment even if covered by savings, meant, in Furtado’s interpretation, an increase in imports because the import component of investment was higher than that of consumption. Nurkse retorted that Furtado’s perspective implied a “commodity approach” to the balance of payments.

In his conference paper Nurkse (1961, p. 262) mentioned positively Lionel Robbins’s discussion of David Hume’s monetary approach to the balance of payments, included in the *Festschrift* for the Brazilian economist Eugenio Gudín. Robbins (1957, p. 270) referred to Hume’s “unsurpassed intuitive insight” that it is the existence of different areas of independent sources of supply of means of payment which is “the essential condition for the emergence of disequilibria in balance of payments”. The revival of Hume’s notion that balance of payments disequilibria can only result from distinct paces of expansion of money supply in different countries would soon reach the core of open macroeconomics. Gudín himself - one of the most prominent Brazilian monetarists - would refer enthusiastically to Nurkse’s anti-CEPAL argument that balance of payments disequilibrium is the consequence of inflation caused by excess domestic money supply, not the inevitable corollary of disproportional economic growth (Gudín 1962, p. 355).

Furtado was one of the contributors to the Gudin Festschrift, and was certainly acquainted with Robbins's paper. However, Furtado's ([1961] 1964, chapter 5) detailed criticism of the applicability of the monetary approach to balance of payments problems of developing countries was a reaction not to Nurkse or Robbins, but to the ideas of the IMF as put forward in an influential article by Edward Bernstein (1956), director of the Research Department of the Fund and frequent traveler to Brazil and other South American countries (see Polack 1997, pp. 215-16). As pointed out by Furtado ([1961] 1964, p. 158), in the Fund's framework excess imports are necessarily financed by means of payment which did not originate in current remuneration to production factors. "The means of payment could originate only from a reduction in net assets or from the issuance of new currency by the monetary authority." Furtado's extensive discussion was preceded by a short paper written during the 1957/58 academic year he spent as a research fellow at Cambridge University under Kaldor's invitation. Furtado (1958a, p. 403) observed that one of the ways of eluding the problem of the tendency to external disequilibrium in Latin America was concentrating on its inflationary symptoms. "It is always easier to deal with such a problem if you call it inflation: a well classified disease with very well advertised therapeutics. This has been the approach to the problem, in the last ten years, of the international missions sent to help the Latin American governments."

Instead, Furtado argued that chronic disequilibrium in the balance of payments was the consequence of "structural disequilibrium" inherent in the process of growth in a dual economy, which occurs through the transfer of labor from the backward to the modern sector with higher productivity and capital intensity. Anticipating some key elements of the two-gap approach to growth, Furtado (1958a, pp. 405-08) showed with the help of a detailed numerical example that - under the assumption that the transformation of savings into real investment in developing countries depends on imports of capital goods - the acceleration of economic growth entails a more than proportional increase in the demand for imports. Furtado's notion of foreign exchange bottleneck was contrary to the predictions of the monetary approach to the balance of payments. The latter implied that, under a fixed exchange rate regime - as in the Bretton Woods era - maintenance of balance of payments equilibrium and an inflation rate equal to the world rate required a passive monetary policy, so that the supply of domestic credit is determined by the demand for it (see Kirkpatrick and Nixon 1975, pp. 149-54). That was not the same meaning of passive money supply in the structuralist framework.

According to Furtado ([1961] 1964, chapter 5), the Fund had overlooked the main features of the growth process in developing countries. Instead, economists of that institution had engaged themselves in inconclusive discussions about the meaning of "fundamental disequilibrium" of the balance of payments and the respective roles of deflation and devaluation in correcting it. Persistent balance of payments disequilibrium, especially if not accompanied by domestic inflation, was often interpreted by orthodox analysis as evidence that the exchange rate should be devalued in real terms. However,

Inflation [in developing countries] is not an autonomous phenomenon, but an overt expression of structural maladjustments which follow in the wake of the growth process in some phases of underdevelopment; disequilibrium of the balance of payments is similarly a manifestation of structural anomalies. Unless these maladjustments can be foreseen and avoided, the cost of avoiding inflation and external disequilibrium is high: economic stagnation or, at least, a restricted rate of growth (Furtado [1961] 1964, p. 168).

The basic factor behind chronic inflation in underdeveloped countries such as Brazil - going through a phase of rapid spontaneous growth under conditions of permanent reduction of its import coefficient of consumption goods, in contrast with its previous growth pattern decided by export expansion - was that the pace of diversification of aggregate demand was much quicker than that of corresponding changes in the composition of aggregate supply (Furtado 1958b, p. 69). Such a “particularly inelastic supply function” was ascribed by Furtado (1958a, p. 409) to shortage of entrepreneurs, lack of external economies, and indivisibility of the production function. He usually emphasized the first factor, associated with the risk involved in investing in import substituting industries, where entrepreneurs lack experience. “The larger the amount of new investment to be made in fields in which entrepreneurial experience is still lacking ... the more imprecise the price system is as a guiding device for investments” (Furtado [1961] 1964, p. 168) and, therefore, the larger relative price changes must be in order to bring about quantitative adjustments.

That same notion - that economic development was bound to be accompanied by inflation because of the contrast between rapid diversification of demand and relatively inelastic supply schedule - could be also found in Campos’s essay on inflation and balanced growth, presented to the IEA 1957 conference (Campos 1961b, p. 86). Campos advanced a distinction between “self-correcting disproportionalities” (which provoke subsequent adjustment through relative price changes) and “induced disequilibria” (which result in bottlenecks leading to interruption of growth) that would influence Hirschman (1958, p. vi). In his later critical assessment of structuralism, however, Campos (1961a, pp. 70, 74) would claim that bottlenecks in Latin American economies were in general not autonomous or structural - they were largely not a cause but an effect of inflation and faulty government intervention.

Furtado (1965, p. 168), on the other hand, continued to argue that the “period of time required for aggregate supply to adapt to the modification of the pattern of demand” was a primary force responsible for the creation of inflationary pressures, particularly when the capacity to import is inflexible in the short run. Supplement of the market system through planning could, in his view, solve both problems - external disequilibrium and inflation. Furtado’s framework fits well with Ian Little’s (1982, pp. 31-21; 78) suggestion that the “structuralist sees the word as inflexible”, since rigidity makes the price mechanism inefficient (see also Balogh [1961] 1965). This was related to the notion of market failure that had played an important role in the European debates about planning since the Second World War (see also Arndt 1985), but the application of the idea of supply inelasticity to inflation as well was something new.

### **3. From inflation to growth**

In contrast with other structuralist authors like Noyola (1956) and Sunkel ([1958] 1960), Furtado did not usually stress the role of the agricultural sector as an important source of supply inelasticity and basic inflationary pressure. This probably resulted from the fact that, whereas Furtado usually had in mind the Brazilian experience, those authors focused their attention on the case of Chile, where agriculture clearly lagged behind other sectors. The evidence for Brazil was not so clear. Moreover, inelastic agricultural supply was generally assumed by Brazilian monetarists to account for what they called high “vulnerability” to inflation (see e.g. Bulhões 1951; Gudin 1962), often associated with criticism of import substituting industrialization. The major role of agriculture in Noyola’s and Sunkel’s accounts reflected also the influence of Kalecki ([1954] 1976) and of the United Nations (1955) *World Economic Report 1953-54*, which

included a study about inflation in Chile - started under the coordination of Kalecki, when he still worked at the UN - with emphasis on the role of inelastic agricultural supply in the Chilean inflationary process. Since Furtado's basic ideas about inflation and growth had already been shaped in his 1952 article, Kalecki's analysis of agriculture and inflation did not influence him, with the possible exception of Furtado (1958b, pp. 18-19) where he discussed the effect of increasing relative prices of agriculture (*vis-à-vis* industry) on inflation and especially on growth.

Furtado's (1958b) brief discussion of the relation between agriculture and growth probably reflected the influence not of Kalecki, but of Lewis (1954), whose growth model had made a big impact on him (see Boianovsky 2010, section 5). Lewis's model of surplus labor had made clear the limitations of both neoclassical and Keynesian theories when applied to underdeveloped countries. As pointed out by Furtado (1955, pp. 57-58), Brazilian inflation could not be understood by a simple application of the Keynesian analytical framework. The aggregate supply function in the Brazilian economy differed from the typical one in developed countries in two main aspects: the supply of capital goods was essentially connected to the importing capacity, and labor supply was highly elastic (because of structural unemployment with zero marginal productivity *`a la* Lewis) even with full utilization of the capital stock.

The notion that the bidding factor in income determination in underdeveloped economies is the capital stock instead of labor supply was also behind the criticism by Sunkel (1957a, pp. 269-75) and others of the generality of the Keynesian concept of the multiplier. As pointed out by Sunkel, supply inelasticity may be also caused by rigid supply in the production of wage goods, which consists mainly of food from the backward agricultural sector. A similar point had been made by Kalecki ([1954] 1976), albeit as an extension of the multiplier concept, not as a critique of it. The common assumption shared by Furtado, Kalecki and others is that money-wages in developing economies are largely decided by the price level of consumer goods - instead of the traditional Phillips curve mechanism - since real wages are given by average productivity conditions in the backward sector.

As interpreted by Furtado (*ibid*), the Keynesian model implied that any increase of money income after the point of full-employment of labor would affect the price level only. Full capacity was not a restriction to long-run economic expansion in that model, since, provided there is unemployed labor, the level of output may increase through higher employment level in the capital goods sector, with ensuing increase of the production of capital goods and of employment in the consumption sector. Such an argument does not apply to underdeveloped economies, which depend on technology created abroad. Hence, expansion of the capital goods sector in those economies is conditioned on an increase of importing capacity or a permanent change in the imports structure. In developed economies, credit expansion and higher investment demand will bring about a shift from the consumption goods to the capital goods sector, as part of the forced saving process that accompanies inflation after the point of full employment is reached.

Again, that argument is not valid for Latin American economies, for two reasons. Firstly, the only important domestic capital goods sector in underdeveloped economies is constructional activity, which, apart from labor, does not absorb inputs from other sectors. Under the assumption of perfectly elastic labor supply, therefore, increase in domestic capital formation does not entail contraction in the output of consumer goods. Instead, inflation will bring about a redistribution of the fixed amount of consumer goods away from the rest of the community to the workers newly employed (see also Lewis 1954, pp. 161-62, for exactly the same argument). Furtado (1955, p. 58) concluded that if Brazilian inflation were of the Keynesian type, it would



never have lasted for so long, coexisting with a relatively high rate of growth. He would repeat at the 1963 Rio conference on inflation and growth the criticism that “the conventional idea about inflation as a mechanism guided toward obtaining forced saving and tending to lose its effectiveness within a relatively short time period, ought to be set aside in the case of the Brazilian historic experience” (Furtado 1964a, pp. 497-98). The additional - and more important - reason why the Brazilian experience with inflation and intersectoral income shifts did not fit the traditional “Keynesian” framework was the essential role of trade in the growth process of the country.

Whereas the conventional treatment of forced saving was framed in terms of the distribution of income between profits and wages, Furtado (1954, pp. 174-87; [1959] 1963, chapter 35; [1960] 1967; 1964a) discussed how in an open economy with a fixed exchange rate and import controls, inflation favored one group of entrepreneurs (importers of capital goods) at the expense of another (exporters of primary goods). The new element in Furtado’s analysis has been recognized by Hirschman (1981, p. 188-90). But not by Craven (1994, pp. 4-5), who has criticized CEPAL economists for overlooking the fact that, since the relevant tradeoff in Latin American economies was between domestic and export production (instead of between consumption and investment), the “inflation tax” was levied mainly on exporters, not on workers or savers - which was precisely Furtado’s point in the 1950s and 1960s.

Shortly after the Second World War, the swift increase in the international price of coffee and other primary goods led to a substantial improvement in Brazilian terms of trade. Furtado explained how such an improvement brought about an inflationary process, and how inflation acted as a mechanism for the redistribution of income against the export sector and in favor of the industrial sector. Furtado’s interpretation of the inflation mechanism in Brazil in the early 1950s was close to Henri Aujac’s ([1950] 1954) approach to inflation as the outcome of conflict over the distribution of income between social groups. This is hardly surprising, for Furtado and Aujac had shared the common influence of François Perroux in the late 1940s in Paris, where Furtado did his graduate studies.

Inflation is a process whereby the economy tries to absorb a surplus of monetary demand. Such absorption takes place through a rise in the price level, and its main consequence is redistribution in real income... The very word “inflation” is inductive to error, because it stresses the monetary aspect of the process - that is, the expansion of monetary income. This expansion is, however, only the means whereby the system seeks to redistribute real income so as to reach a new position of equilibrium... Inflation is fundamentally a struggle among groups for the redistribution of real income, and the rise in the price level is merely the external expression of that struggle (Furtado 1954, pp. 179-81; [1959] 1963, pp. 251-53).<sup>4</sup>

The improvement in the terms of trade of the Brazilian economy after the Second World War had provided the exporting sector with the possibility to increase its participation in real income. However, such a possibility did not become effective, since the income accruing to the exporting sector faced a structure of supply rendered inelastic by the policy of import control. Hence, the improvement in terms of trade, even though promoting an increase in real income, introduced a monetary disequilibrium in the economy. Moreover, the increase in income exerted pressure on the relatively inelastic supply of consumption goods, which affected favorably profit expectations in that sector and led to an increase in the demand for credit. Using a term that would play a key role in Noyola and Sunkel, Furtado (1954, p. 183; [1959] 1963, p. 255) stated

that the rapidity with which inflation *propagates* (“spreads” in the English translation) depends on the way the banking system operates. At this point he introduced the notion of passive money supply into the structuralist approach to inflation. One might expect that monetary authorities could prevent the banking system, which had become more liquid, from expanding credit. However,

The banks almost always [the qualifier “almost” is missing in the 1954 version] act in a completely passive manner. When the increase in monetary income is dammed up in the internal sector, exerting pressure on the price of manufactured goods, food and services, the banking system provides the necessary means of payment. It would of course be wrong to suppose that the banking system itself is a prime mover in inflation, which, as we have already seen, does not originate as a monetary phenomenon... Because a rise in price levels calls for expansion of the means of payment, at this stage of the process the monetary authorities can play an autonomous role. This role will, however, not be easy to carry out inasmuch as it will mean, in the ultimate analysis, protecting one group against the action of the others (Furtado 1954, pp. 183-84; [1959] 1963, pp. 255-56).

Hence, as pointed out by Danby (2005, p. 173), Furtado’s structuralist notion of passive money, which Noyola would follow up, was embedded into a broad institutional-political framework.

It is worth noting that agricultural production for domestic market (non-tradeables) did play a role in Furtado’s account of Brazilian inflation in the early 1950s, although quite distinct from the assumption of rigid agricultural supply usually ascribed to the structuralist Latin American tradition. As suggested by Furtado (1954, pp. 185-86; [1959] 1963, 256-57), the rise in export prices brought about an increase in tradeable output partly at the expense of the domestic sector, due to competition for production factors. Thus, a higher total agricultural output coexisted with higher relative prices for non-traded agricultural goods, which contributed to intensify the inflationary process - a similar phenomenon happened in the Argentine economy at the time.

The inflationary process was the mechanism by which the industrial sector appropriated a substantial part of the increase in economic productivity caused by the improvement in the terms of trade. Interestingly enough, a similar point was made in an article about the Australian economy in that same period (Rowan 1954). The notion that the industrialization of Brazil was to some extent the unintended consequence of inflation was generalized by Furtado ([1960] 1967) to the whole period from the early 1930s up to the late 1950s. He distinguished three phases in Brazilian economic growth since the Great Depression, which he associated to three inflationary waves. The first one corresponded to the start of the industrialization process in the 1930s, when government policy originally devised to defend the interests of coffee exporters - through the purchase and destruction of excess production - inadvertently contributed to keep aggregate demand from falling, raised the price level and, therefore, increased the profitability of domestic industry. The second inflationary wave, between the late 1940s and mid 1950s, was the joint effect of the improvement in the terms of trade and the exchange rate policy - which had been designed to force down industrial prices through foreign competition, but in the end had opposite effects, as discussed above. Finally, the third wave took place when import substituting industrialization apparently reached its last phase in the second half of the 1950s: the domestic production of hitherto imported capital goods and the increase in overhead investment, undertook largely by the public sector.

As explained by Furtado (1964a, p. 498) at the 1963 Rio conference, the type of inflation which started in the mid 1950s and continued until the early 1960s differed significantly from the previous one. “Its primary cause lies in a deep disequilibrium of the public sector, which was called forth to take up concrete responsibilities in the process of capital formation, without regard to the fact that the fiscal apparatus had not undergone the necessary adaptation”. It was clear enough by then that Furtado’s ([1960] 1967, pp. 111 and 117) expectation, that the phase of “uncontrollable inflation pressures” was approaching its end as the economy progressed to an equilibrium between the capacity to import and the demand for imports, had not been confirmed. Instead, inflation accelerated and the rate of growth started to fall in the early 1960s, which made stabilization policy urgent.

#### **4. Stabilization: gradualism vs. shock treatment**

The dearth of practical proposals to stabilize the economy in the short run has been regarded by many as the Achilles’ heel of Latin American structuralism (see e.g. Little 1982, p. 81; Kay 1989, pp. 53-55; Rodríguez 2006, p. 123). Indeed, Hirschman (1981, p. 183) - who was on the whole sympathetic to the structuralist approach to inflation, which he independently had helped to elaborate in the 1950s (Hirschman 1958, ch. 9) - attributed the decline in the influence of structuralist economists in Latin America after the mid 1960s to their unwillingness to “forsake their doctrinal purity and condemn as ‘monetarist futility’ the most elementary and obviously needed anti-inflationary measures” in situations of acute inflation. Furtado ([1961] 1964, p. 160) was aware that inflation is a problem calling for measures to produce “short-term” effects. He acknowledged that short-term measures to correct “excess monetary demand” may be necessary in order to eliminate the “secondary causes” of inflation (often generated by inflation itself). However, since such measures do not reach the core causes of “fundamental disequilibrium”, they are bound to reduce the rate of growth and prevent the creation of conditions favorable to a “true stability” (Furtado 1959, p. 58). While a purely orthodox “monetarist” stabilization program was unacceptable, there was no clear structuralist alternative either, as Furtado admitted in a lecture about the reform of the economics curriculum in Brazil.

Nothing would be so helpful to raise the level of our economic policy as the creation, among us, of a scientific environment in the economic field... We would be in better shape to get to know the connections between development, structural changes and inflationary tensions which have prevailed in our country in the last three decades. In the very least, we would be better prepared to defend ourselves from dogmatism coming from abroad. A politician with good intuition and ability to grasp our reality knows that it would be extremely dangerous and maybe unfeasible to adopt among us a stabilization policy of the sort advised by the International Monetary Fund, which is well illustrated by Argentina and Chile. *However, we are in no conditions to put forward an alternative that meets the real needs of our development* (Furtado 1962, pp. 101-02; italics added; my translation).<sup>5</sup>

A couple of months after those remarks came out, Furtado was appointed Brazil’s first Minister of Planning, in charge of drafting a stabilization program. His diagnosis of Brazilian inflation pointed to two primary causes of disequilibrium (Presidencia da Republica 1962, chapter 1). The first factor was the decline in the capacity to import - after terms of trade had turned against Brazil since the mid 1950s - and the required continuous “structural change” in domestic supply, which agreed with the structuralist approach. The second main factor was fiscal

deficit financed by expansion of money supply, which was also ascribed to structural changes - such as rapid urbanization and growth of heavy industries - that had put pressure on government spending. The increase in the participation of the public sector in aggregate expenditure was considered consistent with the historical record of countries which had undergone swift industrialization in the past - with the difference that those countries had adjusted their tax system accordingly, in contrast with Brazil and other Latin American countries. Given the structural nature of external disequilibrium, its gradual correction should not be based on the adoption of an “equilibrium” exchange rate through sudden devaluation, with its potentially strong inflationary effects (ibid, p. 60). Instead, import substituting and export industries should be encouraged, among other things, by maintaining a “realistic exchange rate” that could be progressively adjusted to the inflation rate.

The most controversial feature of the stabilization plan was its emphasis on the gradual elimination of fiscal deficit as the main instrument to achieve reduction of the inflation rate from its current (1962) level of 50% to 25% in 1963, until reaching 10% in 1965. In his summary presentation of the stabilization plan at the 1963 Rio conference, Furtado did not even mention the contraction in importing capacity as an inflationary factor.

One of the fundamental purposes of the Three-Year Plan was that of planning a public expenditure which might be sufficient to avoid large unemployment created by the government itself and at the same time so small as to avoid inflationary pressures caused by the public sector itself. *This is the essence of the program: to reduce progressively inflationary pressures.* We estimate that given the present institutional framework, it would be far from easy to reduce inflationary pressures to more than one half [of its current level] in the first year. This will allow us to have a fiscal reform and then be able to reduce the inflationary pressure in the second year and up to the third year. This is a highly complex problem; it is unfortunate that it would take up too much time and this prevents me from telling you more about it (Furtado 1964a, p. 499; italics added).

Hence, the timing of stabilization was Furtado’s own answer to his previous bewilderment about the apparent lack of alternatives to the orthodox monetarist strategy associated with the International Monetary Fund. Indeed, Furtado (1989, p. 158) would claim in the second volume of his autobiography that the Three-Year Plan was the “first exercise in what would be called later gradualist therapeutics in the treatment of inflation”. The stabilization program adopted in Brazil in 1964-67 during Roberto Campos’s term as Minister of Planning also featured gradualism (see Kafka 1967, probably the first discussion of the gradualist approach in the English literature). The issue of gradualism versus shock treatment (also called “cold turkey”) would attract the attention of other Brazilian economists, culminating with the publication of Simonsen’s (1970) volume. At that time, the matter started to be widely discussed in the United States as well after the gradualist stabilization experiment of 1969-71 (see Dornbusch and Fischer 1978, pp. 521-28).

The topic was on the agenda of the inflation conference held in Rio in 1963, as indicated not just by Furtado’s remark but also by the contribution of IMF’s economist G. S. Dorrance, who brought in the matter of price expectations. According to Dorrance (1964, pp. 66-68), the main problem with a gradualist approach to stabilization was its weak effect on price expectations of agents, which implied a stronger perverse effect on economic activity as compared to shock therapy. Likewise, F. Lutz (1964, p. 485) suggested that “a change in the public’s expectations about the future movement of prices is a prerequisite of stabilization. And

this can only be brought about by administering a shock to the economy". Harrod (1964, p. 500) agreed that a shock treatment with strong psychological effects was the best strategy to stabilize the Brazilian economy. It is worth noting that the emphasis on the supposed announcement effects of monetary and fiscal policies distinguished the 1963 Rio conference from the American debate of the 1970s on gradualism versus shock, which was based on the premise that the government does not command total policy credibility (see Dornbusch and Fischer 1978, pp. 500-504). Interestingly enough, a powerful defense of gradualism at the conference came from Chicago economist Arnold Harberger (1964, pp. 329-30), who argued that, because of lags between monetary expansions and the price rises, the price level is likely to continue moving up for some time after money supply stops increasing, with real effects in the transition.

Simonsen's (1970) argument in favor of gradualism was also based on lags, but of a different sort. Although Simonsen did not identify himself with Latin American structuralism, his inflation model may be seen as an (unintended) formalization of the structuralist approach (see Lopes 1979; Boianovsky 2008b). If there is no excess aggregate demand in the economy, the rate of inflation will converge to a limit value  $a/(1-b)$  decided by relative price changes called "autonomous component"  $a$ , and the effect of past inflation on current one through contracts, expectations and indexation called "feedback coefficient"  $b$ . The feedback mechanism means that past inflation becomes part of the system (called "inertial inflation" in later models), which makes stabilization without output losses a difficult proposition. In particular, any attempt to reduce the inflation rate below its limit value will bring about a permanent reduction of the rate of growth. The limit value may be seen as the expression of purely structural inflation, to distinguish it from price rises determined by excess aggregate demand.

The notion of "inertial inflation" could be found in Furtado's (1954, p. 179; [1959] 1963, p. 252) concept of "neutral inflation", defined as inflation without any apparent real effects. Neutral inflation occurs if economic agents develop defense mechanisms to prevent the income redistribution required by the introduction of some disequilibrium in the system. As observed by Furtado, it would seem that it would not be difficult to stop a neutral inflation, 'since none of the groups would have anything to lose as a result of stabilization.' However, if one takes continuous time instead of discrete periods, the "difficulty in stopping the price rise in a neutral inflation process" becomes clear.

In any day or month some group will be winning the race for income distribution... Even if it were possible to set an average standard for income distribution over a period of one year, and the intention were to stabilize prices in line with such a standard - that is to say, by enforcing a series of price and wage readjustments - it would be difficult to satisfy every group. The average standard of income distribution during a one-year period would have to be quite different, dependent on whether the period were counted beginning in January or in June, and no one could tell in which month the rise in prices actually started (Furtado 1954, pp. 180-81; [1959] 1963, pp. 252-53).

This explains why Furtado – in contrast with Noyola (1956, p. 616) - did not usually support income policy in the form of price and wage control as stabilization instruments.<sup>6</sup>

Kaldor (1964, p. 500) supported Furtado's view that fiscal deficit was a main factor behind Brazilian inflation, which should be tackled gradually, since reforming the tax system was a politically delicate time-consuming process.<sup>7</sup> Apart from fiscal reform, another reason for avoiding curbing inflation "in the shortest possible time" was the structural relation between inflation and growth. "If inflation is repressed by mere monetary measures, that is,

unaccompanied by other measures aimed at assuring those changes (such as substitution of imports), it may be taken for granted that the rate of growth of the economy will irretrievably decline” (Presidencia da Republica 1962, p. 14). This may be interpreted as a criticism of any attempt to bring inflation to zero without changing the *a* and *b* parameters in Simonsen’s later model. It is consistent with Furtado’s goal to reduce the rate of inflation to 10% (which may be deemed the “structural” rate) through fiscal policy.

Monetization of fiscal deficits caused by inefficient tax systems had been included as one of the “propagation mechanisms” of basic inflationary pressures by Noyola (1956) and Sunkel ([1958] 1960). According to Sunkel (p. 110), “structural deficiencies in the tax system” should be regarded as one of the sources of basic inflationary pressures, which raised Olivera’s (1964, pp. 331-32) criticism that “one thing is structural inflation and another is structural proneness to inflation”. Against Olivera, Thorp (1971, pp. 189-90) argued in favor of Sunkel’s broad political notion of structural factors, even if the kind of inflation associated with fiscal deficit is clearly of the excess aggregate demand kind - which Thorp did not find relevant, since “structuralists do not find the demand pull/ cost push categorisation useful”. Lopes (1979, p. 11), on the other hand, sided with Olivera and suggested that if fiscal deficits were included as a structural inflationary factor, structuralist stabilization policy could not be distinguished from the monetarist one - as illustrated, according to Lopes, by Furtado’s Three-Year Plan. However, Furtado’s approach was closer to Olivera’s (and Simonsen’s), in the sense that he kept analytically separated the different factors in the inflationary process.<sup>8</sup>

The Three-Year Plan was short lived and did not succeed in bringing down the rate of inflation. Furtado resigned to his position as Minister of Planning in June 1963, among complaints of difficulties to implement his stabilization plan, rising inflation and downfall in economic activity (see Daland 1967, pp. 166-170). Furtado’s failed stabilization attempt would soon be discussed by CEPAL in a detailed study on economic policy in Brazil, produced by the Brazilian economist Carlos Lessa, who would later disclose its authorship. According to the CEPAL document, a main reason for the failure was the discrepancy between the rate of inflation projected by the stabilization plan and the price expectations of entrepreneurs, which led to a sharp fall in the real supply of credit (Lessa 1964, p. 205). A few years later, Furtado would state in an interview to Daland (1967) that his inability to persuade entrepreneurs and other economic agents of the general objectives of the 1962-63 stabilization plan had contributed to its demise.<sup>9</sup>

## 5. Final remarks

In his assessment of the structuralist-monetarist controversy in Latin America, Campos ([1964] 1967, p. 109) wrote that in the short run, when entrusted with policy-making responsibilities, all structuralists become monetarists, while, in the long run, all monetarists are structuralists, since they do not oppose economic reforms that increase that elasticity of supply functions in respect to price changes. “Thus we might jocosely define a monetarist as a structuralist in a hurry and a structuralist as a monetarist without policy-making responsibility”. This oft-cited remark was inspired by the Three-Year Plan, which Campos, as Brazilian Ambassador to the US at the time, supported enthusiastically. Campos’s phrase originated in a letter to Furtado at the time, as mentioned in his autobiography (Campos 1994, p. 512; see also [1964] 1967, p. 108).

In the same vein, in his recollections of the 1963 Rio meeting, Harberger (1997, p. 307) suggested that the consensus that emerged from the conference was that if substantial chronic fiscal deficit financed by monetary expansion was considered a structural phenomenon, then “we are all (or nearly all) willing to be called structuralists”. The “consensus” view was expressed at

the Rio conference by Simonsen (1964, p. 110). Simonsen referred also to the structuralists' emphasis on the endogeneity of these deficits based of their "political and sociological" roots, which he considered a pretty "obvious" point. He did not dismiss the purely structural causes of inflation ("basic pressures") associated with relative price changes, but found them insufficient to account for inflation rates of the magnitude suffered by Brazil and some other Latin American countries - a critical comment also made by Lewis (1964). Simonsen's criticism, however, overlooked the role of "propagation mechanisms" in Noyola's and Sunkel's frameworks, which pointed to fiscal deficits as a particular illustration of the conflict over income distribution. Eliana Cardoso (1981) would later put forward a formal structuralist model of inflation where agricultural supply inelasticity, fiscal deficits and wage-price spiral interact to determine the rhythm of price level changes.

As pointed out by Little (1982, pp. 82-83), one way to interpret the debate, "albeit one that is unduly kind to structuralism", would be that structuralists advocated gradualism instead of the monetarists' shock treatment. Indexation (especially of the exchange rate) could prevent inflation from distorting relative prices, as Furtado had suggested in the Three-Year Plan and it would be implemented in Brazil after 1964 with Campos and Simonsen - with the difference that post-1964 stabilization was partly based on incomes policy that contributed to reduce real wages through an indexation formula that underestimated the inflation rate. The essential idea of gradualism was that eliminations of bottlenecks in the productive structure could proceed, while a declining but still high inflation rate was accepted to continue for some time - which, as observed by Little, defied the IMF's approach, based on the Bretton Woods philosophy. As a policy-maker, Furtado was not guilty of the "puritanism" Hirschman ascribed to the Latin American structuralists of the early 1960s (see also Sola 1998). As a theoretician, he showed the relevance of the structural interpretation of inflation to understanding the disequilibrium growth process of the region once it embarked on import substituting industrialization after the great depression.

## Notes

1. The structuralist distinction between "basic inflationary pressures" and "propagation mechanisms" is reminiscent of Ragnar Frisch's (1933) hypothesis about how irregular "impulses" are turned into regular economic fluctuations through propagation mechanisms. Latin American economists did not refer to Frisch in that connection, but they did mention Frisch's later contributions to the theory of economic planning. Anyway, the role of the "propagation" element in Noyola's and Sunkel's frameworks was to show how "real" or "basic" factors are able to produce a cumulative inflationary process, not cyclical changes.
2. Prebisch (1984, p. 182) recollected that "I frequently dealt with inflation in my writings... My treatment of this matter was rather conventional, however, with some occasional incursions into structural factors and external vulnerability". See also Prebisch 1961.
3. Interestingly enough, Friedman's proposition was part of two lectures delivered in India about the (lack of) connection between economic development and inflation. Whether Friedman was reacting to Latin American structuralism is a moot point; but that possibility cannot be disregarded, since Harberger, Martin Bailey and other Chicago economists wrote about Chilean inflation and criticized structuralism at the time.

4. The interpretation of inflation as the outcome of social conflict is not a good criterion to tell structuralists from monetarists, however. According to Bernstein and Patel (1952, p. 370), continuous inflation depends on the “resistance of one sector in the economy to a reduction in its share and the insistence of another sector on an increase in its share of the national output... There will then be an unresolved struggle for the distribution of the national output”. Where structuralists differed from the traditional social conflict approach to inflation was in their emphasis on economic factors (such as changes in terms of trade or inelastic agricultural supply) that could work as starting factors (see Hirschman 1981).

5. Similarly, Prebisch (1984, p. 182) observed that in the 1950s and 1960s “I was far from being sympathetic to the views and prescriptions of the International Monetary Fund, but notwithstanding my previous experience at the [Argentinian] Central Bank in noninflationary times, I was not able to recommend policies different from those I criticized”.

6. In the 1980s and 1990s, after indexation mechanisms had become widespread, the notion that Brazilian inflation was predominantly “inertial” gained assent among Brazilian economists, which culminated with the successful 1994 stabilization through monetary reform, called “Real plan” (see Andrade and Silva 1996). Furtado did not participate in the formulation of that stabilization program, but would later claim in an interview that the notion of inertial inflation goes back to his 1954 idea of neutral inflation (Biderman, Cozac and Rego 1996, p. 82).

7. Kaldor’s interpretation of Brazilian inflation differed from his previous study of inflation in Chile, which pointed to structural imbalances caused by inelastic agricultural supply as the main factor (see Kaldor [1959] 1964).

8. Differently from Olivera (1960, 1964) and Furtado (1958b, pp. 69-71), Sunkel ([1963] 1970, pp. 114-15; my translation) stated that the structuralist explanation of inflation was not designed as a theoretical alternative to the traditional demand pull and cost push approaches. Sunkel’s main concern was not so much what particular inflation theory is deployed, but that it is not done in a “simple and mechanical way”. Hence, “it is not enough to show that there is excess investment; it is necessary to determine the reasons why such an excess comes about... It is not enough to insist that money supply has increased because of demands from the public sector; what matters is to investigate why the government systematically incurs deficits”.

9. Furtado (1965, p. 175, n. 3) would only deploy the “basic causes/propagation mechanisms” terminology in his first paper written upon leaving Brazil following the 1964 military coup d’état. He claimed that the structuralist approach to inflation provided what we nowadays call microfoundations of the macro system. “Current attempts to control inflation by focusing only on the propagation mechanisms (inspired by the monetarist theory) constitute a classic example of sterile efforts towards modifying the behavior of economic agents without previous alteration in the structural parameters which condition their behavior. As the criteria of rationality implicit in the monetarist policies are established at a macro level, since it is impossible to adequately foresee or control their repercussions at the micro level it may happen that economic agents be required, by these policies, to follow an irrational behavior from the point of view of their legitimate economic objectives”. According to Furtado, structural reforms were necessary to allow compatibility between rationality at the “micro and macro levels”.

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