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The pioneering contributions of Maria da Conceição Tavares to the analysis of demand-led growth in developing countries

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Abstract

Among her many other contributions, Maria da Conceição Tavares was a pioneer in the analysis of demand-led long run growth. From the early 1960s, she developed her views on the role of effective demand in the process of capital accumulation. First, in her work on import substitution and industrialization at CEPAL and later, adapting and developing in her own original way some key aspects of theoretical contributions, especially from Kalecki, but also from Steindl, particularly on the demand and capacity effects of investment, as well as some insights from Hilferding in her own explanation of autonomous investment. However, unlike Kalecki himself and most development economists, she understood that being monetary capitalist economies, effective demand is a key element in the explanation of both short run cycles and of the long run process of capital accumulation not only in developed, but also in developing economies. In this paper we review the evolution of her thinking on these issues and the strong influence her contributions had and still have, through the work of some of her students, on the current research agenda on demand-led growth.

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1 Introduction

As it is well known, Maria da Conceição Tavares (1930-2024) made many important contributions to the teaching and research, both theoretical and applied, in heterodox economics in Brazil.[2] Among her many other contributions, Tavares was a pioneer in the analysis of demand-led long run growth, with which we are exclusively concerned in this paper.[3] From the early 1960s, she developed her views on the role of effective demand in the process of capital accumulation. First, in her work on import substitution. Later, by adapting and developing in her own original way some key aspects of theoretical contributions, especially from Kalecki, but also some from Steindl, particularly on the demand and capacity effects of investment (induced investment). Also, by incorporating some insights from Hilferding in her explanation of financial and technological determinants of investment (autonomous investment). However, unlike Kalecki himself and most development economists, she understood that being monetary capitalist economies, effective demand is a key element in the explanation of both short run cycles and of the long run process of capital accumulation not only in advanced, but also in developing economies.

In this paper we review both the evolution of her thinking on these issues and the strong influence her contributions had and still have on the work of some of her students on the current research agenda on demand-led growth (although naturally incorporating certain modifications). Our evaluation of Tavares's work here will be basically concerned with theoretical and conceptual issues and her interpretation of these in her work, and not so much with assessing the empirical validity of her contributions on the growth of Brazil and other developing and advanced countries, an important task which would require

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[2] She is remembered especially for her work as a researcher at United Nations Economic Commission for Latin America – ECLAC (1961-73) and a professor at both the Federal University of Rio de Janeiro – UFRJ (1961-92) and the State University of Campinas – Unicamp (1973-87), institutions with which she kept collaborating for many years after her formal retirement. For a comprehensive outline of her many achievements in the very different arenas in which she fought throughout her life see Carvalho, Carneiro, and Fernandes (2026).

[3] For Tavares' contributions on broader issues of political economy and economic development, see Vernengo (2022), Robilloti (2016) and Bastos (2021, 2023).

another full paper. Given that one of Tavares' greatest qualities was the ability to organize and undertake collective work, here we will make plenty of references to the work of the many co-authors, colleagues and students, which she put in charge of either applying her ideas and insights to particular historical experiences of both advanced and developing economies or further developing their theoretical implications.

Moreover, as it is only natural, our discussion will not be "neutral" (as she would surely have hated a purely celebratory hagiography), but will be explicitly done from the perspective of the theoretical approach we actually follow in the study of these issues - the revival of the classical surplus approach as proposed by Sraffa and Garegnani since the early 1960s, in particular in the form developed by our collective research effort around the Sraffian supermultiplier growth model (Serrano, 2001). This in fact allows us to show how much her approach to demand-led growth was close to that of the modern classical surplus approach, especially in her work in the 1960-70s. More importantly, this perspective will highlight how much key elements of what is now the Sraffian supermultiplier owes to her pioneering contributions.

We shall conveniently organize our discussion of her main contributions to our topic around six key points.

The first is that, since her first publication, Tavares (1964) analyses the internal determinants of the actual pace of growth and capital accumulation of the developing economy as being demand-led. Although following and developing the ECLAC structuralist approach regarding the balance-of-payments constraints (based on their center-periphery view), she distances herself from the view that growth is supply-side constrained in developing economies, as present in the overwhelming majority of development economics analysis at the time, including Kalecki himself. Tavares (1964) analyses the conditions under which there is a transition of the main driver of demand-led growth of a developing economy, from exports to domestic market demand-led growth. There, induced investment expands, driven mainly by the process of import substitution and the growth of public investment, when the developing economy already possesses a relevant domestic capital goods sector.

The second point appears in Tavares and Serra (1971). It concerns the rejection of the association between long-run effective demand and any form of a priori assumption about an inevitable tendency towards economic stagnation, whether in advanced or in developing economies.

The following three points (three, four and five) are directly and explicitly influenced by Kalecki (and Steindl) and were developed especially in Tavares (1973[1975]; 1974[1998], 1978[1990]; 1986[2024]). The third point, influenced by Kalecki, is convincingly argued that a capitalist economy can grow (or stagnate) in principle with any type of income distribution, i.e., distribution is to be seen as a parameter in the determination of effective demand and output. Also, distribution is determined separately by the relative bargaining power of workers and the structure of capitalist competition. This latter separation implies that in the long run there is no necessary connection between income distribution and the rate of accumulation.

The fourth point regards the importance that she gives for demand-led growth, not only to the expansion of investment but also to capitalist consumption (and other autonomous non-capacity generating expenditures) and the associated Kaleckian vertically integrated department that supplies this part of demand – DII.

The fifth contribution relates to Tavares' concern with the importance of the dual character of investment which currently is as a source of demand but later entails an increase of productive capacity. This concern regards both the analysis of the business cycle fluctuations and the long run trend of growth, as capacity generating investment is seen as basically induced in the latter longer run process. Moreover, in spite of her use of Kalecki's version of the principle of effective demand and of his three departments scheme in the 1970s, Tavares took up Steindl's suggestion of treating the effect of effective demand on business investment as operating directly through the degree of capacity utilization and some version of the capital stock adjustment principle, instead of indirectly through the effect of higher capacity utilization on the realized rate of profits as in Kalecki.

The sixth point is about the way in which she appropriates Hilferding's views of financial capital to provide an explanation of an autonomous component in investment that introduces innovations. This perspective, present since Tavares (1971[1972]), is revisited and deepened in Tavares and Belluzzo (1980[2023]) and increasingly emphasized in her later works. Tavares considered that this type of innovative autonomous investment required an appropriate form of business organization into large private corporations, and a close connection between these large firms and private banks that would provide long term credit.

We discuss the first five of these contributions more or less in the order that they appear explicitly in her work over time since the early 1960s, with the exception of the sixth point on financial capitalism and autonomous investment (that was already present in her work in the early 1970s but was more fully developed and emphasized in her work after 1980).

In section 2 we deal with the first point by discussing the theoretical part of her celebrated 1964 paper on “import substitution”. Section 3 discusses points two to five, where we examine Tavares and Serra (1971) criticizing the (saving) supply-constrained stagnationist view of Furtado (1966); her two theses (Tavares, 1974[1998]), 1978[1998]); and the debate with her colleague Antonio Barros de Castro on the relevance demand-led explanations of growth in capitalist economies in general and of Kalecki’s views on effective demand in particular. This debate involved a few of Tavares’ other colleagues and students on her side.

In section 4 we deal with her later more detailed discussion of financial capitalism and how this was the basis for her views on autonomous investment. We then move to the final section 5, focused on the very strong influence her work had on two rather different current research agendas put forward by her former students. Limiting ourselves only to the part that is directly relevant to our specific topic of demand-led growth, we briefly discuss bot the agenda related to the concept of financialization, originally developed by Braga (1985), for whom investment ends up being considered entirely autonomous (Braga, 2000); and our own agenda developed from the Sraffian supermultiplier demand-led growth model introduced by Serrano (1995a, 1995b), in which business investment is taken as entirely induced.

2 Tavares on demand-led growth in developing economies

Most development economists, including those from ECLAC, have tended to assume that in developing countries growth was supply-constrained even in the long run, because of capital scarcity and/or a presumed chronic inelasticity of food supplies. Therefore, a long run inverse relation between consumption and investment was postulated either by the adoption of some long run version of Say's law or through a forced saving mechanism[4]. Even Kalecki himself adhered to this consensus view, generally ignoring long run effective demand constraints in developing economies[5]. Tavares, however, treated developing economies as any capitalist economy, in the sense that it operates according to the same general laws of any capitalist economy. In these economies the output of all sectors ends up responding to persistent increases in effective demand, and thus effective demand determines not only the long run levels of output but is also important to long run capital accumulation[6].

[4] For a critical discussion of these elements of development economics, see Serrano (2001).

[5] Kalecki's analysis of long run growth in socialist centrally planned economies was (correctly) based on capital supply constraints as central planning obviously eliminated any effective (i.e., profitable) demand constraint, while growth in advanced capitalist economies was seen as being demand-led. In the case of developing economies, with a developmental state, that he termed mixed economies, he assumed long run supply constraints (of capital or food supplies) and forced saving mechanism adjusting distribution and aggregate demand to the limited aggregate supply, even in the long run (Kalecki,1966, 1970). Lopez et al. (2009, p. 193-194) report that Steindl (1942) shared the same view that developing economies face long run supply constraints (because of an assumed inelasticity of the agricultural supply). One of the very few exceptions to this practice was Garegnani (2015[1962]) who also used effective demand to explain growth in a developing economy but only in an unpublished 1962 report about the development of the south of Italy (Moreira and Serrano, 2018, Cesaratto, 2020).

[6] Tavares (2014) credits to Ignácio Rangel's the influence on her view that both Brazil and most Latin American economies did not face chronic agricultural supply shortages, so different from most of her ECLAC colleagues. They were colleagues in Brazilian Development Bank (BNDES), where she worked between 1958-60. For her, the real problem instead was the low labor productivity of agriculture that led to distributive and (cost-push) inflation problems, but not to a long run inability to expand the food supply to meet the rising demand. In this respect, see, for instance Tavares (1964, pp. 52, 101-102, 104-104; 1974[1998], p. 135; 1978[1998] p. 154-155) and Tavares and Serra (1971, p. 938).

This view can already be seen in her first publication, "The Growth and Decline of the Import Substitution Process in Brazil" (Tavares, 1964). There, she analyzes the changing growth regimes of developing economies as being clearly demand-led. In this pioneering work on demand-led growth, explained in the brief theoretical parts of her study of the growth of the Brazilian economy in the 1929-60 period, Tavares (1964) discusses the structural conditions under which there is transition of the demand-led growth regime from an export-led "*hacia fuera*" to a "*hacia dentro*" domestic demand-led growth regime, in developing economies which already possess a domestic capital goods sector.[7] Tavares (1964) emphasizes that, although initially increased private investment is always a boost to demand and output, in a longer period it is necessary to consider the possible negative influence of its capacity effects on its further growth, if the final market is not expanding. Thus, in Tavares (1964), investment ultimately grows with the initial reductions in the import content of domestic demand led by the process of import substitution and the growth of public investment[8].

In the typical export-led development economy, Tavares assumes that there is virtually no relevant domestic capital goods industry, so local innovative autonomous investment and the domestic content of investment demand are quite low. Moreover, there is an incipient domestic industry producing more sophisticated or durable consumption goods

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[7] Before Tavares, Furtado in his classic book *The economic growth of Brazil: a survey from colonial to modern times* (1959[1963]) had also used a Keynesian perspective, arguing that Brazilian growth before 1930 was mainly determined by the growth of its primary exports and their quite modest multiplier effects due to the very high propensity to import. According to him, the 1929 crisis and the collapse of coffee prices in international markets then lead to a shift in the pattern of demand-led growth that began to be led by the expansion of the domestic market (Furtado, 1959[1963], chap. 32). This structural shift occurred first through expansionary fiscal policies adopted in response to the crisis, then via the growth of the domestic market with the "import substitution" process leading to the growth of private investment. Tavares (2014) attributes pioneering work to Rangel in the analysis of the import substitution industrialization process, followed by Tavares (1964): "Rangel was also a pioneer in the analysis of the import substitution process. I wasn't the pioneer, he was. On the contrary, I even learned a lot from him." It is observed that this theme was addressed in Rangel (1954[2012]).

[8] Tavares (1964) articulates this demand-led growth scheme with a detailed discussion on the difficulties of overcoming balance-of-payment constraints to growth and late industrialization. She does it by clearly separating the expansion of effective demand as determinant of growth from balance-of-payments as a constraint to output growth, contrary to much of the Kaldor-Thirlwall literature, which tends to conflate these two aspects (Medeiros and Serrano, 2001).

hence the domestic content of this demand component is negligible. Even the domestic content of simpler consumption demand is not quite significant. To this we add that the aggregate marginal propensity to consume is probably low because of great income inequality, the state's presence is not large and the credit system for housing is not well-developed. This structural setup entails an economy where exports are the main component of autonomous demand, with a very weak multiplier effect. In this export-led economy, the attempt to counteract the negative effects on export of the great depression led to a larger level of government spending and some reduction in the import content, particularly of the demand for simpler consumer goods.

Then, as documented by Tavares (1964), the next stage in postwar Latin America had been one of deliberate state-led industrialization, in which a more significant local capital goods sector is developed. Although there is now a local capital goods industry, autonomous investment remains very low because innovations are rare due to few "Schumpeterian entrepreneurs".[9] The process of import substitution in this phase entails an increase in the domestic content of investment (from a very low base) and more substantial increases in the domestic content, first of the demand for simpler consumer goods, then for the demand of more sophisticated and durable consumer goods. This, together with rising government (and state-owned-enterprises) investment in infrastructure and other strategic sectors, increases in autonomous consumption of the richer segments of the population and housing investment led to faster growth. This process of growth with structural change continued, although at a slower pace, even after the domestic content coefficients, particularly on new investment, stopped rising as the

[9] In her own words, "This implies, on the one hand, that not all investment can be purely induced by current demand and, on the other, presupposes a capacity for foresight and autonomous decision-making that can only be attributed to the State and/or to a small number of exceptional innovative entrepreneurs. (…) The term is employed here in the Schumpeterian sense. Thus, while the existence of considerable entrepreneurial capacity in some Latin American economies – capable of responding adequately to market stimuli and/or to government policy decisions – is not denied, it seems reasonable to regard as rare the 'innovative' type, endowed with a long-term vision capable of anticipating opportunities arising from the opening of new lines of productive activity (Tavares, 1964, p.7, fn.9)".

newly installed sectors demanded more sophisticated, and difficult to produce locally, foreign inputs and equipment.

Therefore, Tavares (1964) structural approach to demand-led growth with induced investment applied to developing economies was one of the first and very few fully articulated analysis that emphasized the role of effective demand to the process of capital accumulation for developing economies[10].

3 Tavares on effective demand, distribution and capital accumulation

3.1 Demand-led growth and the critique of stagnationism

The second point in our list of Tavares' contributions to our topic, is her rejection of the association between the view that effective demand constraints matter in the long run with any form of a priori assumption about a tendency towards economic stagnation. Tavares is thus contrary to the stagnationist view of many authors who embraced demand-led growth (Hansen, 1939; Sweezy, 1942; Steindl, 1952). This point is first stressed in the paper "Beyond stagnation" by Tavares and Serra (1971).

One of the main purposes of that paper was to provide a critique of Furtado's (1966) thesis that Brazil was then doomed to long-run stagnation, but from the supply-side. It is worth noticing that Furtado changed his analysis in relation to Furtado (1959[1963]): growth was not explained by effective demand anymore, but consistent with (long-run) Say's law, i.e., the rate of growth was explained by the share of saving on output divided by the capital-output technical ratio (Serrano, 2001). Using this framework, Furtado (1966), by assuming that workers don't save, argued that the investment share would be

[10] Note that Furtado completely abandoned the idea of aggregate effective demand playing a role in the explanation of long run growth in all his subsequent works, starting with Furtado (1961[1964]) published just two years after Furtado (1959[1963]). For a discussion of The presence of Say's Law in Furtado's analysis on underdevelopment, see Serrano (2001, p. 139-142).

determined by capitalists' propensity to save and the profit share. The latter was increasing in Brazil at that time because productivity grew faster than real wages, directly increasing the saving share. However, this would come together with the adoption of imported capital-intensive techniques that are assumed to increase the technical capital-output ratio. Furtado then further argues that the latter effect would be so strong that the profit rate would fall and with it the rate of accumulation and growth of the economy (Bastos and D'avila, 2009, pp. 181-191).

Tavares and Serra (1971, pp. 906-916) disagree with this interpretation. First, by providing an internal critique of Furtado's argument, by showing that in his scheme higher labor productivity leads to a higher capital-labor ratio but does not necessarily imply an increase in the capital-output ratio, let alone an increase large enough to reduce the profit rate at full capacity utilization. Second, and more importantly, by abandoning Say's law and then distinguishing the concepts of technical full capacity-output ratio from the actual capital-output ratio, the latter affected by the actual degree of capacity utilization.

Based on this distinction, Tavares and Serra (1971, pp. 916-918) argue that a higher actual capital-output ratio observed in the period in Brazil was just a result of a lower actual degree of capacity utilization. This was due to the completion of a large 5-year investment Plan (1956-1960) carried out by the Brazilian federal government that created a lot of new capacity. Thus, the supposed Brazilian stagnation between 1962-67 was a result of the slowdown of effective demand, and as such predominantly cyclical, not structural. Business investment slowed because of a lower expected realized profit rate – resulting from both lower profit margins and lower utilization of existing capacity – and this together with a fall in public investment had led to the growth slowdown.

The recovery of the Brazilian economy from 1967-70 was also explained via effective demand. Basically, they argued that besides increasing the profit share, the military regime after 1964 implemented financial reforms that had a positive impact on some components of autonomous demand, particularly credit financed consumption of durable goods. Moreover, public investment made by both the government and state-owned enterprises also started growing at fast rates. The growth of these components of demand, they argued, more than compensated the slowdown in consumption of lower paid workers, leading to a higher rate of growth of demand and output (Tavares and Serra, 1971, pp. 921-29).

3.2 No necessary connection between distribution and accumulation

The analysis above has a clear kaleckian flavor, though Kalecki is not explicitly mentioned. But this connection is made explicit in a subsequent paper. While Tavares (1971[1972]) main purpose is to discuss financial development and in particular financial capital (a topic that will be discussed in section 4), in this paper she also complements the analysis of Tavares and Serra (1971). Tavares (1971[1972]) quotes Kalecki's (1954) theory of effective demand in which the mass of profits is determined by investment and capitalist consumption and the multiplier by the profit share, and in a footnote explains how she is adapting this to the analysis of the Brazilian economy:

> "[i]n the simplified Kalecki's model, capitalist consumption would correspond to the urban consumption of the upper and middle strata. The model assumes that wage earners' consumption is approximately equivalent to the wage bill and, as such, does not generate any significant or measurable savings (Tavares, 1971[1972], p .238, fn. 15)".[11]

It is important to note that in spite of the adoption of a Kaleckian perspective in which output depends on effective and in which the marginal propensity to consume of workers is assumed to be quite high, meaning that the direct effect of an increase in the share of profits would be to decrease worker's consumption and aggregate demand and output, Tavares and Serra (1971) denied that income concentration would be an obstacle to the expansion of output. They did so because they saw that the government's growth strategy could (and did) lead to a fast expansion of autonomous components of demand that more than made up for the slower growth of the consumption of lower wage workers.

This is connected to Tavares' third point which we will further discuss below, i.e., the fact that under demand-led growth there is, of course, no inverse relation between

[11] She also mentions Steindl (1952) in Tavares (1971[1972], p. 238, fn. 14).

consumption and investment in the long run[12]. Hence, there is no direct necessary connection between distribution and accumulation, which can be related quite differently across different growth regimes.

This general point is driven home very comprehensively with great forcefulness in her two theses (and a few papers related to them) in which she makes a pioneering and very original adaptation of Kalecki's three-department schemes of reproduction[13,14]. She used the latter to study different long run possible changing patterns of relations between distribution, technical and structural change, and the long run path of capital accumulation in developed and developing economies. She also applies this scheme for the specific case of Brazil (Tavares, 1973[1975]; 1974[1998]; 1978[1998]; 1986[2024]; Tavares and Belluzzo, 1978[2023]; Tavares, Possas and Façanha, 1978).

Tavares (1974[1998], p. 14) states she would "radically distance herself" from the ECLAC's prevailing views on the internal determinants of capital accumulation (but not on the analysis of external constraints). As we saw in our earlier discussion of Furtado (1966), this view assumes that full capacity saving determines investment in the long run. Given the very different propensities to consume of the social classes, this implies that

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[12] The only exception to this no inverse relation between consumption and investment in Tavares' work regards some textual evidence of forced savings mechanism when discussing the "financing problems" of the Brazilian economy. According to this mechanism, demand inflation adjusts aggregate demand and supply by compressing real wages and consumption to open space for the increased investment. For Tavares (1967[1972], p.131), "[i]nflation appears to have functioned, in the context of Brazilian development until a few years ago, not only as a mechanism of forced saving (in an aggregate sense) (…)". However, it is not clear if she is referring to a short or long run relation, and what is the exact nature of the aggregate supply constraint that would be leading to the need for forced savings. Nevertheless, in a subsequent work also dedicated to the topic of financing development, the need for forced saving is clearly absent as output is determined by effective demand (Tavares, 1971[1972]), and the notion of forced savings is also not found in any of Tavares' subsequent works.

[13] The first thesis, "Acumulação de capital e industrialização no Brasil" ["Capital accumulation and industrialization in Brazil"], was a habilitation thesis defended in 1974 and the second, "Ciclo e crise: o movimento recente de industrialização brasileira" ["Cycle and Crisis; the recent movement of Brazilian industrialization"], a full professorship thesis defended in 1978, both at UFRJ.

[14] Though mentioned briefly in Kalecki (1954), Kalecki's main papers related to his reproduction schemes quoted in Tavares (1974[1998]) – Kalecki (1967) and Kalecki (1968) – had been made more widely available quite recently when they were published in Kalecki (1971).

the profit share increase usually tends to increase the rate of accumulation and long run economic growth, through its impact on increasing the aggregate propensity to save. Tavares clearly states that she will base her "central macroeconomic view" on Kalecki's principle of effective demand (Tavares, 1974[1998], p. 16).

By doing so she can then separate analytically the determinants of output from those of distribution, as done by Kalecki. The former is determined by effective demand, while for the latter she proceeds along classical lines, seeing real wages as determined by the relative bargaining power workers and firms. This determination is made more complex in the case of modern oligopolistic capitalism with persistent large sectoral profit differentials and mediated by institutional and political setup – "[t]he stratification of the industrial 'labor market' and the Government's wage policy (Tavares, 1973[1975], p. 47).[15]

For her, this separate determination of output and functional income distribution is to be seen as a parameter, to be taken as given in the determination of effective demand and output. Therefore, there can be no necessary connection between income distribution and the rate of accumulation, because the share of the surplus and the corresponding aggregate marginal propensity to save determines only an upper limit to the feasible rates of capital accumulation and growth of the economy, but definitely not its actual long run trend, that could lie much below that. In her own words,

> The initial wage rate does not determine the pace of accumulation, nor does the latter determine the wage rate; it merely sets its upper bound. In the long run, capital accumulation will return to its own trajectory,

[15] In her work, despite her emphasis on oligopolies, she never subscribed to the view that profit shares can be determined unilaterally by firms and money wage bargaining is futile. And she explicitly positively refers to the only paper in which Kalecki does not make this assumption (Kalecki, 1971b). The determination of the level and the structure of real wages along these lines is further detailed in Tavares and Souza (1981) and Tavares (1986[2024]). Souza was also a student of Tavares and a comprehensive theoretical analysis of these topics in relation to both advanced and developing countries can be found in his Doctoral Thesis at Unicamp (Souza, 1980). We should also mention Medeiros (1992), a Doctoral Thesis at Unicamp supervised by Tavares, which follow this same approach for the analysis of labor market and wage structure.

> adjusting to whatever wage rate has previously been attained and can be sustained by the working class. (Tavares, 1978[1998], p. 27).

Following Kalecki, for Tavares, while the aggregate mass of realized profits will depend on the expenditures of capitalists (as well as other autonomous sources of demand), the profit share is explained by the technique in use and the above-mentioned bargaining factors. As stressed by Kalecki (1968b), the combined effect of these assumptions is to make the average of the actual degree of capacity utilization (and the realized rate of profits) endogenous in the long run. This is the key macroeconomic adjustment variable in a long run analysis of capital accumulation completely free from Say's law.[16]

3.3 Autonomous non-capacity generating expenditures

The fourth point of our list is perhaps the most original contribution of Tavares to the analysis of demand-led growth. It regards her emphasis on the important role of growing levels of the autonomous part of capitalist consumption as a stimulus, rather as a hindrance, for faster long run capital accumulation, both in advanced but also in developing economies.

The same is valid in more general terms for autonomous expenditures that do not generate new capacity for the private sector of the economy. We saw that Tavares (1964) already stress the importance of government investment to demand-led growth to which Tavares and Serra (1971) and Tavares (1971[1972]) add durable goods consumption. In her theses, Tavares further elaborated and clarified these ideas, adding the importance of residential investment (Tavares, 1978[1998], pp. 149-150).

Following Kalecki, Tavares (1974[1998], p. 33) states that capitalist consumption is "a component of effective demand that is as important as investment spending from the standpoint of the dynamic realization of profits within a process of accumulation." Here it is clear the departure from ECLAC's view based on Say's law that conspicuous consumption of the elites would reduce the growth of investment, or, in the case of

[16] On the role of the degree of capacity utilization as a long run adjustment variable in Kalecki, see Lavoie (2022, chap. 6)

“forced saving”, lead to a change in distribution and reduce the consumption of workers via forced inflation[17].

Moreover, for Tavares (1974[1998], p103) “government’s ‘autonomous demand’ functions merely as a floor that prevents – or at least can prevent – prolonged stagnation and helps sustain a minimum rate of growth, even during periods of depression” being thus a stabilizer”. The same idea is expressed in Tavares (1978[1998], pp. 121-122) as “[c]onventional” public investment (as defined in the national accounts), by contrast, exhibits a much higher degree of “autonomy” (in the Keynesian sense). It can, in fact, generate effective demand through autonomous expenditure, which is independent of market expansion and serves as a stabilizing mechanism over the business cycle. Construction programs and social expenditures, even when financed through borrowing, represent a guaranteed minimum rate of growth of domestic demand.”

Connected with her emphasis on “capitalist consumption”, in her three-department scheme, she highlighted the role in the productive structure of the associated vertically integrated department DII that supplies this part of demand[18]. Advanced countries faced historical periods in which the real wages of less qualified labor were low, and thus workers could not afford the same types of goods bought by the elite. In that time, this treatment of the DII as a separate department from the DIII - that produced basic wage goods – was important to the understanding different patterns by firms. Particularly, different patterns of accumulation by firms and the key role played by competition through product innovations and differentiation for those operating in the DII, as opposed to the emphasis on process innovations and general cost reductions for the latter.[19] In these countries, however, over time the absolute levels of base real wages increased, and

[17] For these various alternative views on the effects of those “unproductive” expenditures, see Serrano (2001).

[18] “Capitalist consumption” here can be understood more generally as autonomous expenditures that consume part of the economic surplus but do not increase capacity for the domestic private sector of the economy.

[19] Here she explicitly recognizes (Tavares, 1974[1998], pp. 32-33) that the separation between the determination of accumulation and distribution gives different roles for the “DII”, which is irrelevant for distribution for Sraffa, but at the same time is very important for accumulation for Kalecki.

workers started to consume simpler versions and smaller quantities of what became more or less the same commodities and thus, from the standpoint of the technical conditions of production, the DIII tends over time to become more homogeneous with the DII and may be considered from the point of view of supply indistinguishable from the DIII. Ultimately, they may be fused in a single general department producing consumption goods (Tavares, 1974[1998], p. 34-35). However, from the point of view of demand generation the distinction between the basically autonomous trend of capitalist consumption and the largely induced consumption out of wages keeps being crucial.

In the case of the productive structure of the low-wage late-industrializing developing countries, that were in a phase in which State-led industrialization was made via import substitution, according to Tavares' schemes, many goods that were previously consumed by the elite and imported from abroad come to be produced domestically, often by multinational corporations establishing a local DII.[20] Once this structural shift is set in motion, there are strong tendencies for the establishment of a pro-industrialization power coalition combining the interests of local business, local branches of multinational corporations and the Developmental state to pursue a socially exclusive pattern of accumulation with government doing nothing (when not deliberately pursuing wage repression) about rising income inequality, since the expansion of demand for these newly domestically produced goods is driven primarily by upper- and middle-income groups. These peculiar developmental priorities lead to specific policy measures such as the promotion of consumer and housing credit for higher income groups, and guides the orientation of the provision of public investment (i.e., roads for cars, rather than public transportation) and even of the investment priorities of state-owned-enterprises (geared

[20] A reconsideration of the historical process of economic development in Brazil since colonial times (from the 16th century), as the formation of a specific type of capitalism called late capitalism, in Brazil, consistent with this theoretical framework, was provided by Cardoso de Mello (1975) a Tavares' colleague at Unicamp, Cardoso de Mello (1975). Both Cardoso de Mello (1975) and Tavares (1974) acknowledged their strong mutual influence. This partnership between Cardoso de Mello and Tavares later resulted in joint paper (Cardoso de Mello and Tavares, 1985) specifically analyzing what they termed the "capitalist export economy" in Brazil between 1884 and 1930, a period corresponding to the "emergence and consolidation of industry" in the country, thus expanding the analysis that was already present in Cardoso de Mello (1975, chap. 2.2. A similarly compatible account of the very uneven development of different regions of Brazil was provided by Cano (1975), another colleague of Tavares at Unicamp.

to the needs for cheap inputs or provision of utility services for the firms operating in the DII).

This particular pattern of development can lead to very fast rates of accumulation for the economy as whole, as both the DII and DI grow at fast rates, while the growth of the DIII lags behind. This particular pattern of development is not seen as inevitable, but Tavares argued that the one chosen in many developing countries and especially in the case of Brazil after the 1964 military coup.[21]

3.4 The dual character of investment and induced investment

Before entering in the discussion of the views of Tavares on induced investment, we must make a distinction between the general capacity effect of investment, which concerns the effects of previous investment on the size of productive capacity, and the specific investment functions used that explain the causes of current investment decisions in the short run.

Because of the inevitable capacity effects of investment, it is clear that in the long run investment that increases productive capacities cannot keep growing for very long, much faster than its final market is growing, without becoming very unprofitable. That is why it is common (in the Keynesian business cycle literature since Kaldor, Harrod, Hicks, Domar and others) to treat capacity-creating business investment growth, in the aggregate for an economy or a sector, as being in the long run limited by the growth of "investment

[21] In fact, in Tavares (1964), written before the coup, this particular strategy was already seen as one of four alternative ways in which the Brazilian economy could end up resuming growth at fast rates. Despite that, Tavares' three-department analysis was wildly misinterpreted. The most common misinterpretation (so common that it would perhaps be unfair to pick a specific example) was that she held that income concentration was "functional" for growth in a literal sense, establishing a definite necessary relation between distribution and growth, against which she had recruited Kalecki's theory to fight. Another curious interpretation was that of Wells (1976), that labels her views as "underconsumptionist", which is remarkable as Tavares is in fact referring to a pattern of accumulation in which the capitalist consumption grows fast, while in underconsumption theories growth presumably falters by lack of consumption from workers. Moreover, Wells (1976) argues that since cheaper durable consumer goods were already consumed by low-income workers in Brazil since the 1950s, the rise in income inequality would have decreased the market for these goods, contrary to what Tavares argued. Saboia (1983) refuted this claim empirically showing that the market for these goods increased in the period of rising inequality.

opportunities" or, in other words, ultimately induced by the growth of effective demand. Similarly, very similar considerations inevitably apply in terms of the relation between the growth of capacity and that of demand to both Marxist (Sweezy) or Kaleckian analysis of accumulation using schemes of reproduction, in spite of many other differences, such as thinking primarily in terms of the growth of the mass of realized profits instead of the growth of output. In fact, it is this same fundamental problem of the structural sustainability of a particular path of capital accumulation that Tavares calls the "dynamic realization problem" (Tavares, 1974[1998], p. 35-36).[22]

The notions of induced and autonomous investment in this longer run structural sense is present in her work since Tavares (1964), and is taken up again with a more kaleckian guise in her "two theses".

On the other hand, in terms of short run decision to invest, expected (instead of actual in the case of structural trends) demand is just one between many variables that are often seen as relevant for investment, and those variables frequently appear as different arguments in an investment function. In this second sense, Tavares and Serra (1971) introduced the idea that the level of the actual degree of capacity utilization is an important determinant of investment, but with its influence operating through the current (and expected) levels of the realized rate of profits as in Kalecki's (1954) investment function. Soon after that, Tavares (1971[1972], p. 238) introduced, based on Steindl's (1952) investment function, the deviation between the actual degree of capacity

[22] A detailed study of the relationship between Tavares' analysis based on Kalecki's schemes of reproduction and the classic debates on crises and the future of capitalism between German Social Democrats and Marxists in the early 1900s was done by Mazzuchelli (1983) in his Doctoral Thesis at Unicamp, a student of Tavares. In fact, the main purpose of thesis is to provide a theoretical interpretation of the transition of capitalism into its monopolist (oligopolist) and financial phase, based on the particular interpretation of Marx put forward by Belluzzo (1975) that had a great influence on Tavares' views on Marx (whether capitalism is in a competitive or oligopolist phase does not really affect the determination of output by effective demand for her, so the discussion of these issues is beyond the purpose of this paper). The relationship between Marx and Kalecki's schemes of reproduction and their respective analysis of the realization of the surplus and effective demand was done by Miglioli (1979). An introduction to Kalecki's views on effective demand in a capitalist economy is found in Jobim (1979[1984]).

utilization and its normal or planned degree as a direct determinant of investment, independently from the rate of profits.

It is, however, in her theses, after analyzing long run trends with the aid of the schemes of reproduction, she moves to investigate the dynamics of shorter run instability and cycles to capture the role of the dual character of investment as first demand and later capacity. For this task she uses more specific investment functions. In this short run context, Tavares (1974[1998], 1978[1998]) emphasizes the role of induced investment (in the short run cyclical sense) and accelerator effects for the dynamics of the cycle, relying on Kalecki but mainly on Steindl. The latter is included in her toolkit "also for his theoretical effort to integrate microeconomic aspects with the macroeconomic character of accumulation theory" (Tavares, 1998[1974], p. 55).

Specifically, Steindl is recognized by the importance of capacity utilization to investment. In her words,

> "[t]he only way an individual monopolistic industry can react to unwanted excess capacity is to slow down its expansion process, which will have the effect of decreasing its level of investment and, via induced demand, increasing the degree of underutilization of other industries, depressing the overall pace of investment and growth of the system" (Tavares, 1974[1998], pp. 55-56).

Reinforcing this point, Tavares was aware that Steindl advanced the theory of investment in relation to Kalecki[23,24].

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[23] Steindl (1964, p. 232) criticized and proposed a "variant which could be made of Kalecki's model. The negative feed-back which operates in this model acts via the rate of profit. One could imagine it to act, in an analogous way, via the degree of utilisation. This requires only that the investment is made to depend not on the rate of profit on existing capital, but on the degree of utilisation of capacity".

[24] Evidence on how important Steindl for this intellectual project was can be seen in Mazzucchelli (1974), a student of Tavares at Unicamp who produced a review of Steindl's main theses. Moreover, Luciano Coutinho, a colleague of Tavares (also at Unicamp) wrote the introduction of the Brazilian edition of "Maturity and stagnation" in 1983.

> The determinants of investment are, as in Kalecki, the rate of internal accumulation of companies, their degree of indebtedness, and the degree of utilization of productive capacity.
>
> Steindl, however, explicitly introduces the degree of indebtedness and capacity utilization into his long-term model, and not merely as an explanation of the cycle.
>
> The level of indebtedness of all companies is equivalent to the ratio between retained earnings and savings external to the companies. Since this is a closed model without a public sector, these savings are provided only through the domestic financial system, and indebtedness is decided according to the principle of increasing risk, comparing the interest rate determined in the financial market with variations in the domestic profit rate, which, in turn, depends on the growth rate of the system. (Tavares, 1974[1998], pp. 58-59)

Tavares (1974[1998],1978[1998]) also applies the above framework for the Brazilian economy, respectively, 1930-67 and 1967-77. This explanation is a refinement of the one provided in Tavares (1964) and Tavares and Serra (1971) in the sense that the level of effective demand is now central, and investment responds to the gap between the actual and normal degrees of capacity utilization. For Tavares (1974[1998], pp. 77-84) unplanned spare capacity was the cause of fall in investment and the slowdown of the economy in 1962-66. Tavares (1978[1998], p. 93) uses the relation between capital and actual output in the manufacture sector as a proxy of actual capacity utilization in her explanation for the cycles of Brazilian economy from 1967-77.

In Tavares (1973[1975], pp. 63-64) we can see how the components of autonomous demand and induced investment appear in her concrete analysis of accumulation of the Brazilian economy:

> The saturation of investment opportunities observed during the depressive period 1963-67 therefore corresponds to the normal dynamics of a cycle in which the deceleration and crisis of Department I are followed by the deceleration and crisis of Department II and, finally, by the deceleration of Department III. This is the natural sequence in an industrial cycle once all three Departments are already present and exhibit an internally intertwined dynamic of expansion. The "normal" trajectory of endogenous recovery would be: public investment, private investment, workers' consumption, and capitalists' consumption. The workers' consumption component responds through

labor demand (with wages stable or rising again) generated by higher levels of investment, while capitalists' consumption reacts with a lag to the increase in profits and accumulation.

However, this was not the recovery trajectory followed by the Brazilian economy after 1967. The recovery occurred – while maintaining the antagonistic opposition between workers' consumption and capitalists' consumption – through an additional reduction in the basic wage rate and a sharp increase in the rate of exploitation. The recovery path was therefore entirely 'asymmetric' and was realized fundamentally through the recovery of public investment and the accelerated expansion of capitalists' consumption, preceding the recovery of private investment and preventing the expansion of workers' consumption."[25]

3.5 The debate on effective demand

In the late 70's to the early 80s, Tavares and her followers participated in a debate about the long run growth trend of advanced capitalist economies. What became known as the "effective demand controversy" was mainly about two issues: one related to the explanation of the end of Postwar Golden Age of growth in the advanced economies; the second about the role of effective demand in the long run in general.

The debate started with Coutinho and Belluzzo (1977) and Coutinho (1979) explaining the slowdown of growth as directly caused by lower expansion of autonomous innovative investment, the latter being ultimately a result of the fading of post-war long wave of technical change. This slowdown of autonomous investment reduced both the growth of induced investment and consumption, and the lower rate of capital accumulation reduced the growth of embodied technical progress and labor productivity. And the lower growth rates of productivity were seen as aggravating the ongoing distributive conflict.

Castro (1979) responded by interpreting the end of the golden age as the result of a marked increase in the intensity of class conflict since the late 1960s. According to him, the ensuing increase in the wage share, directly reduced capitalist savings and the rate of

[25] See Robilotti (2016, pp. 263-294) for a detailed discussion on the cycles of the Brazilian economy.

accumulation, via "profit squeeze"[26]. Castro (1979) also criticizes Kalecki's theory of effective demand and the idea of that capitalism has a chronic long run demand 'defficiency'. In his view, effective demand should be relegated to the short-run and capitalism, due to its intrinsic competitive forces, would 'somehow find its way' to growth[27].

In fact, the first replies to Castro on the second aspect – defending Kalecki's views – was provided not by Tavares herself, but by her students. Possas and Baltar (1979[1981], pp. 112-116) argue that effective demand should not be seen as a problem, but a "solution", in the sense that effective demand should not be seen relevant only when there is a crisis, but it is what explains in general the levels of output and influences capital accumulation in capitalist economies. Effective demand and the dual role of investment, as emphasized by Kalecki are important both for the cycle and the trend.

Belluzzo and Tavares (1981), however, responded to Castro with a defense of effective demand in terms of it being a theory of the instability of capitalism and of the short-run volatility of investment, based on Keynes. Castro (1981) in his rejoinder correctly noticed that Belluzzo and Tavares (1981) did not address the two key issues related to Kalecki and long run relevance of effective demand (perhaps because Possas and Baltar had already addressed these issues) and argued that they seemed to have based their reply on Minsky's (1975) interpretation of Keynes, instead of Kalecki.[28]

In any case, it is in the work of Mario Luiz Possas, in his doctoral thesis supervised by Tavares at Unicamp (Possas, 1983), that the analytical distinction of cyclical and trend-related aspects of investment based on Tavares' perspective reaches its maximum degree of rigor and completeness. Possas (1987), starting from Kalecki, reexamines the notions

[26] Serrano (2004) points out that the slowdown in labor productivity growth happened only after the mid-70s, and the investment share in advanced economies also fell only after mid-70s. Thus, the main effect of rising distributive conflict was on inflation and the slowdown in growth happen only after economic policy shifted towards controlling inflation (Steindl, 1979, Cavalieri et al, 2008).

[27] This critique of Kalecki is restated by Castro (1980).

[28] Indeed, Tavares (1996, p. 146) attributes her understanding of Keynes's work to her collaboration with Belluzzo at Unicamp.

of induced and autonomous investment and their relation with the business cycle and the trend.[29]

He then suggests a number of improvements in Kalecki's and Steindl's investment functions. The first is to clarify the role of credit finance and retained earnings as characterizing financial constraints on investment, rather than direct determinants (as they appear in Kalecki and Steindl). Indeed, Tavares (1978[1998], p. 42) when discussing Keynes chapter on the trade cycle (chap. 22 of *General Theory*, published in 1936) mentions that even very low interest rates would have no effect of stimulating investment if the existing capital stock is already perceived as too large.

Another important improvement is about showing that some variables in Steindl's investment function are somewhat redundant, and there is no good reason to consider investment a direct function of both the realized rate of profits and the deviation of the degree of utilization from its normal level in the same investment function. More generally, Possas (1987) criticizes any attempt to postulate a definite connection between the rate or share of profits and the induced component of investment. The latter should be driven by a consistent version of the principle of adjustment of the stock of capital, but a satisfactory version would have to include both the corrective aspect of the deviation of capacity utilization from its planned normal degree but also simultaneously a projection aspect. He latter incorporates firms' expected trend of demand growth. Thus, with these two components, a single induced investment function should be used for analysis of both cyclical fluctuations (which had no reason to be regular or stable) and of trend of demand-led growth. Further financial and especially technological considerations should be left to the autonomous component of investment. The latter should take care of investment that led to broadly defined structural change.

[29] Tavares (1987, p. 7-8) considered these contributions very important and in the preface of the book of Possas (1987), corresponding to the part of his Doctoral Thesis related to macroeconomic analysis, she says that supervising Possas' in this effort was one of her most important intellectual achievements in her (quite long) career.

Moreover, Possas (1987, p. 264-265) criticizes Steindl (1952) for not proposing an adjustment mechanism of actual utilization to its normal or planned level, as in Steindl's theory there is an inadequate coexistence of a notion of normal degree of utilization with an endogenous actual degree of capacity utilization, that ends up having no clear tendency towards the latter norm.[30]

Finally, Possas (1987) extends his own model beyond the fixprice oligopolies to include sectors that have rigid short run supply and flexible prices and shows that investment in these sectors ends up behaving very much like the fixed markup prices sectors in a longer run. The only difference is that in the former changes in effective demand tend to initially manifest themselves in market demand prices higher or lower than the relevant sectoral supply prices, and only with some lag, output increases or decreases responding to these discrepancies. This shows that in any type of market, outputs end up adjusting to effective demand (i.e., demand at the supply price) and the validity of the role of effective demand in either the short run cycle or long run trend has nothing to do with price rigidity. Oligopolies, or even monopoly capitalism (though Steindl exaggerates the differences brought about by the modern predominance of oligopolies), are important for many things, but not for determination of aggregate output and investment.

4 Financial capital and autonomous investment

In spite of her great concern with the contradictory demand and capacity effects of business investment and thus with issues related to the induced aspect of private investment, the notion of autonomous investment has also always been present in Tavares work since the beginning. For Tavares (1964, p. 1) "autonomous investment accompanied by technological innovations," i.e., "the diversification and integration of internal

[30] Note that this inconsistency does not really apply to Kalecki, as he does not have a concept or normal capacity utilization, which was introduced later by Steindl.

productive capacity" is important, in addition to exports, as determinant of growth for advanced economies.

Autonomous investment is seen as important because of its effects on aggregate demand. The growth of autonomous investment is seen as being capable of imparting a positive demand-led growth trend to an economy, even if other autonomous components of demand were stationary, as in Kalecki (1954, 1968). But innovative autonomous investment made by large corporations is also seen by Tavares as strategic for development. In her view, it is the main vehicle for structural change, with positive consequences for the increase in the modernization of the productive structure and the increase in the efficiency and competitiveness of firms operating both in domestic and international markets. Thereby, it helps to overcome balance-of-payments constraints.

While in Tavares (1964) the relative lack of autonomous investment is blamed on the rarity of "innovative-type" of entrepreneurs in Latin America, in Tavares (1971[1972], 1974[1998], 1978[1998]), more emphasis is given to the oligopolistic phase of capitalism, in which large corporations are those who are seen to drive autonomous investment. Tavares's own contribution in this regard was to attempt to explain this autonomous component of investment using her own interpretation of the notion of financial capital as introduced by Hilferding, in his classic book *Finance Capital*, originally published in 1910. Tavares (1971[1972])[31] explicitly based on her interpretation of Hilferding (1910) already argued that the actual purpose of financial development under capitalism was not to increase the domestic saving ratio or even to increase the aggregate investment share, but instead to develop financial capital.

[31] Notice that her 1964 reference to Schumpeter are clearly, as we saw above, to the individual innovating entrepreneurs from the 1934 English version of *Theory of Economic Development*, and not (yet) to the large innovating corporations emphasized in his 1942 book *Capitalism, Socialism and Democracy.* The later Schumpeter is closer to the her later views on autonomous investment, with the important difference that Schumpeter downplays the role of credit for the investment of large corporations because he thought large firms did not need credit and could finance their investment largely by retained profits, while for Tavares long term credit is crucial for the centralization of capital and autonomous investment. This confirms that her views after 1971 are much closer to Marx and Hilferding than to Schumpeter.

Tavares (1971[1972], p. 215-216) summarized this notion of financial capital as having three main functions, namely: (i) allowing the possibility of purely financial accumulation with the creation of "fictitious" capital, that is, of wealth through the creation of income yielding assets and speculative capital gains on them; (ii) promote the separation between the entrepreneur and the capitalist, with the first understood as the organizer of the production of the surplus, while the second was the owner of the property rights of the capital employed and was responsible for its allocation towards the most profitable alternative uses; and finally (iii) promote the association between industrial, commercial and banking capital under the command of financial capital, enabling "the possibility of promoting a greater centralization of capital in its most general form, of property rights and, therefore, of ultimate control over the overall process of accumulation" (Tavares, 1971[1972], p. 216).[32]

Thus, while she admitted that financial capital could stay restricted to speculative activities, she argued that finance capital was strictly necessary for the process of centralization and concentration of capital that was at the origin of forms of capitalist organization in terms of big firms that had enough capital to undertake investment in modern techniques (that have large minimum efficient scales) and were able to be competitive also in the international markets. Therefore, autonomous investment was explained by the presence of financial capital geared to the productive innovative investment of big firms. Tavares (1971[1972]) argued that whether financial capital would take this innovative route or remain merely tied to speculation depends on institutional characteristics and on the policies of the nation states towards structuring such big innovative firms under national control. In this sense, she contrasted what she considered the successful case of Postwar Japan where the large and highly innovative *Keiretsu* conglomerates were instituted with the support of the State, and the comparative

[32] In the same paper, Tavares (1971[1972], p. 239, fn. 16) summarizes the functions of finance capital in the following terms: "to allow the unfreezing of industrial capital, its mobilization and intersectoral transfer through a fusion of interests from all spheres of industrial, commercial, and financial accumulation, under the aegis of the latter."

weakness, relatively small scale, and low capacity for innovation of Brazilian large firms (Tavares, 1971[1972], p. 255-263).

In Tavares (1978[1998], chap. 4), she returns to the theme of development financing, with special emphasis on the Brazilian case. She identifies in advanced economies an "active function" of national financial system, i.e., "to manage and direct the accumulated volumes of money capital in order to support the movements of real accumulation, especially when it comes to advancing capital for large-scale projects with long gestation periods" (Tavares, 1978[1998], p. 141).[33] Thus, "in this active dimension, the financial system acts as a driver (and, in certain cases, as a subject) of the process of monopolization of capital, accumulating the merger and intersection of large capitalist groups" (Tavares, 1978[1998], p. 143).

Both her interpretation of the role of financial capital in monopoly or oligopolistic financial capitalism and its influence on autonomous investment where further developed in Tavares and Belluzzo (1980[2023]). Against Sweezy's interpretation that Hilferding's analysis would be relevant only for the banks and associated cartels of the German case, Tavares and Belluzzo (1980[2023], p. 101] claim that besides this more specific analysis, Hilferding provides a proper characterizing of the general features of financial capital and its connection with modern oligopolistic capitalism. Defending this generality, the paper points out similar arguments found in John Hobson's book, *The evolution of Modern Capitalism*, whose first edition is from 1894, and the fourth and final edition is from 1926. In this book about "modern capitalism" in the USA, Hobson stresses the fundamental role of a rentier class of owners who exert dominance over productive activities of firms. This view is further developed in Tavares (1983) introduction of the Brazilian translation of this Hobson's book. In regards to the determination of the autonomous component of investment, Tavares argues that innovative investment is dependent on financial capital,

[33] Tavares (1978[1998], p. 141) indicates two other operational functions for the national financial system: "1) To create expanded credit based on the amplification of debt-credit relationships between companies, households, and financial institutions; 2) To intermediate the transfer of loan capital through the diversification and accumulation of financial assets that can be used by surplus companies and institutions". According to her, the Brazilian financial system has succeeded in fulfilling both of these functions, which would not have happened with the "active function", as will be discussed later.

the process of massive concentration of capital in large conglomerates intimately connected to banks.

In Tavares and Belluzzo (1980[2023], pp.104-108) it is further argued that the rise to global dominance of large U.S. multinational corporations is ultimately a consequence of its financial capital. This explains the U.S. superior technological and productive system.[34] This centrality of the large conglomerate company under the *aegis* of finance capital would be a relevant and common trait of countries with late industrialization such as the U.S., Germany, and Japan, which would come to have a prominent position in the monopolistic stage of capitalism inaugurated in the end of 19th century. The latter emerged in the wake of the 2nd Industrial Revolution when there was a brutal increase in the minimum scales of production and an even greater integration into the world market, both commercially and financially.[35]

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[34] According to Tavares e Belluzzo (1980[2023], p. 105) "[t]hat is why the hypothesis advocated in the contemporary debate ascribing the international preeminence of the large American company mainly to productive and technological aspects seems to us to be mistaken. The much-vaunted spread of American consumption patterns or the generalization of its technological 'matrix' are both shadows of the hegemony of US big business, which ended up imposing simultaneously its 'manufacturing system' and its 'financial system' worldwide. The latter plays the dual role of unifying the global capital structure while allowing its differentiation through the specialization and differentiation of financial institutions". It is way beyond our purpose here to discuss this quite extreme view of the importance of the organization of business firms and banks as such. But we can recommend for a very different view of the case of the U.S., emphasizing the role of technology and of State policies, and particularly those related to the military industrial complex, two papers by Medeiros (2000; 2003).

[35] Tavares's view on the centrality of large corporations for the process of capital accumulation and innovative autonomous investment was subsequently applied in empirical studies by many of her students, as can be verified in Oliveira's Doctoral Thesis, defended at Unicamp in 1985, and in the Master's Dissertations defended at UFRJ by Teixeira (1983) and Torres Filho (1983), the latter two under the direct supervision of Tavares. Thus, Oliveira (1985) extends the analytical perspective present in Cardoso de Mello (1975) to analyze comparative patterns of industrialization patterns, starting with the original British industrialization, in the end of 18th and beginning of 19th century, in the stage of competitive capitalism, then examining late industrialization countries, particularly the United States, Germany, France, Russia, and Japan, throughout the 19th century, in the monopolistic stage of capitalism. In turn, Torres Filho (1983) examine the Japanese experience of economic recovery and modernization between 1945-73, whereas Texeira (1983) studies the industrialization process in advanced capitalist countries between 1945-80, when the relevance of large corporations and their internationalization process increased, under the leadership of the United States.

Moreover, Tavares and Belluzzo (1980[2023], p. 104) also argue that after the changes in the world economy in the 1970s, that had entered a new phase of increasing instability, the role of "fictitious capital" – associated with the search for capital gains, unrelated with production – has been increasing. Thus, speculative financial activities were becoming more important relative to productive investment in the process of valorization of financial capital.

Later, Tavares (1992, pp. 40-43) by analyzing the successful technological modernization process in some advanced countries in the 1970s-80s, introduces her concept of "organized capitalist countries," which would apply to countries based on the articulation between private banks and industrial companies (Japan[36] and Germany) and those where credit from public banks prevailed (France, Italy, and South Korea).[37] According to Tavares:

> We call them countries with organized capitalism, as those in which the organic relationships among the state bureaucracy, banks, and large industrial firms have consistently played a central role in their historical development (…) These structural relationships have given rise to genuine 'networks' that enable the reciprocal pressures between private economic agents and the state to occur in an orderly manner, thereby reconciling interests and fostering strategic consensus in industrial restructuring policies, while also allowing for the operational coordination of economic policy (Tavares, 1992, p. 41).

Thereby, autonomous investment here is explained by efforts of modernization led by large conglomerates and coordinated by the state, in the context of the third industrial revolution. In those countries, thanks to these elements, innovative autonomous investment prospers.

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[36] Note that already in Tavares (1971[1972], pp. 261-262), a similar characterization is adopted to refer to the Japanese case. In Tavares, Torres and Bularmaqui (1991), the Japanese economy is characterized and analyzed as a "successful case of organized capitalism" between 1945-89.

[37] According to Tavares (1992, pp. 40-41), the economic performance of countries with "organized capitalism" was more successful during this period than that observed in the USA and England, countries "which advocated and universalized ultraliberal policies of adjustment and deregulation".

In contrast to this, Tavares argued many times (Tavares 1971[1972], 1978[1998], 1999, Miranda and Tavares, 1999) that the Brazilian developmental State failed to structure a national private sector[38] financial capital "worthy of its name" (Tavares, 1999, p. 465 and 476). This is because large conglomerates controlled by national financial capital capable of leading growth through innovation embodying autonomous investment were not developed. The local financial capital ended up focusing more on seeking speculative capital gains than in generating profits and promoting technical progress.[39]

Finally, Tavares and Melin (1998) argue that the already mentioned crisis in the 1970s also led to a process of "financial globalization", more unstable and intensifying the process of increasing in the importance of fictitious capital, to the detriment of productive investment, and international financial liberalization, "stemming from the imposition of neoliberal policies emanating from US economic authorities, subjecting the entire global economy to the predominance of a global financial logic at an unprecedented speed (…) (Tavares and Melin, 1998, p. 41).

[38] Note that Brazil has a large state-owned development bank -BNDES - created in 1953, and the Brazilian developmental state created many large state-owned enterprises, of which the better known nowadays are Petrobras, a giant firm which is still state-owned, and generally seen as quite innovative and the aircraft producer Embraer, now privatized but also well-known for its innovations. It seems clear, however, that Embraer's achievements owed much more to decades of government funded research on aeronautical engineering and government procurement policies for the sector, rather than to factors related to business organization. Tavares however always insisted that a proper national financial capital for Brazil should be composed by private banks (in spite of her own claim in Tavares (1992) that public banks where successful in "organized capitalism" countries such as France, Italy and South Korea) combined with private innovative firms and explicitly criticized the idea of financial capital organized by state-owned banks and enterprises (1978[1998], p. 144, and also 1999, pp. 468-9).

[39] According to Tavares, in the Brazilian case, even after the financial reforms of the 1960s, the "active function" of the country's financial system as a "driver of the process of monopolization of capital," has not been "effectively developed by the financial system but rather relegated to the sphere of the State, where it is processed in a specific and incomplete way, while the function, the orbit of 'fictitious valuation,' has been developed" (Tavares (1978[1998], p. 171). An examination of the reasons given by Tavares (1978[1998], pp. 143-145) as to why the Brazilian public development banks and funds were unable to fulfill the active role of financial capital, as well as the validity of such propositions, falls beyond the scope of the present paper.

5 Autonomous or induced investment?

In this final section we illustrate the extent of the influence Tavares' work has in two currently very active and different research agendas, though limiting ourselves only to the part of them that is directly relevant to our specific topic of investment and demand-led growth. These are the agenda related to the concept of financialization, originally developed by Braga (1985), for whom investment would have become entirely autonomous (Braga, 1993) and our own agenda developed from the Sraffian supermultiplier demand-led growth model that consider that all investment should be considered entirely induced.

5.1 With financialization all investment becomes autonomous

The term "financialization" was first mentioned by Braga (1990)[40] and developed in Braga (1993; 1997, 2000) and Braga et al (2017). He builds on the interpretation of Marx and Keynes found especially in Tavares (1978[1998]) and Tavares and Belluzzo (1980[2023]), in which financial capital was typically represented by the predominance of transnational corporations in the period following the Second World War. There, both international trade and international finance were heavily regulated. The breakdown, in the 1970s, of the institutional framework defined in the Bretton Woods Conference, would have established a new stage of capitalism (that supersedes monopoly capitalism) marked by commercial and financial liberalization in which fictitious speculative capital predominates.

This concept of "financialization" is synthesized by Braga et al (2017, p. 830):

> [A]s a systemic pattern of wealth, establishes new ways of defining, managing and realizing the wealth, which **affects the spending**

[40] Although Braga did not use the term "financialization", the main propositions were already present in his Doctoral Thesis at Unicamp (Braga, 1985, p. 374): "Valorization and competition operate under the dominance of a financial logic, which means – among other things – that centralized capitals manage simultaneously several types of assets ranging from productive assets to financial assets".

> **decisions of the main economic actors**, impacts economic policies and thus the ups and downs of business cycles, as well as leading to crises (**our emphasis**).

And financialization is thought to radically alter the decisions of large corporations, particularly those organized as holding companies, to the point that now they would have a new "objective function" as follows:

> Fo = f(Zgs, Itp, X, Cgv, Fg)
>
> where Zgs = production and trade of goods and services; Itp = investment in technical progress, with the creation of new products, new processes, and new organizational forms; X = internationalization through trade; Cgv = internationalization through investment and, more specifically, breaking up the value chain among different countries; and Fg = general finance, which may have operational purposes when related to the core business; and non-operational, when not related to those activities, but focused on speculation and arbitrage in financial markets. (Braga et al., 2017, p. 836).

According to the authors, this pattern of wealth management significantly influenced economic dynamics, insofar as the value of financial wealth held by different economic actors began to increasingly influence spending decisions and, ultimately, effective demand. This would have "radicalized" the inherent characteristic of capitalism, namely, "the permanent tension between expansion and crisis," thereby increasing its instability, the recurrence of crises, and the need for state intervention to mitigate them.

Finally, regarding business investment in fixed capital, Braga (1993, p. 46) points out that financialization introduces a complexity that renders most existing theories of investment obsolete:

> The capitalist dynamics at issue are of a novel nature; i.e., both the forms of movement of the crisis and the patterns of its restructuring are new. Consequently, most of the existing theoretical literature on the economic dynamics of capitalism proves inadequate. This is the case not only for the formal dynamics derived from the neoclassical synthesis, but also for certain neo-Kaleckian and neo-Schumpeterian

> approaches, all of which are grounded in the recurrent phases of the business cycle – short, medium, and long.
>
> What is observed instead is a condition of structural instability shaped by the logic of financialization, a logic that is paradoxical in the various senses previously mentioned.

And what is of particular interest to us, Braga (2000) argues that the principle of the adjustment of the capital stock, as developed by Kalecki and Steindl and followed by Tavares (1974[1998]; 1978[1998]), and induced investment in general, also somehow ceases to be relevant due to the more complex nature of the determination of investment. In Braga (2000, p. 310, our emphasis) own words:

> **Note that the adjustment of the capital stock (related to planned idle capacity) should not be adopted as an a priori norm**, since its influence on investment decisions is conditioned by the calculation of the technical-financial strategy. The decline in the planned utilization rate, when using the firm/industry analytical cutoff, produces, according to Kalecki & Steindl, a fall in the investment rate and consequently a cyclical recessionary reversal or even a stagnationist trend. However, once this analytical cutoff is overcome, with the fall in the utilization rate in the firm/industry, corporations, or even large companies located in an industry, calculate investment diversification, innovations, creation of new markets, financial gains, etc. **Given these conditions in the economic calculation, it is no longer normalized by the adjustment of the capital stock, and the cyclical mechanics, the mechanical temporality, given by the parametric constraints on the investment function, regarding financial and technological decisions, among others, no longer apply**. **To put it another way, the mechanical adjustment of the capital stock is suppressed by this more complete and complex dynamic of capitalist calculation.**

Thus, with “financialization”, Braga argues that all investment is now autonomous and driven by these complex and unstable financial factors.[41]

[41] For a critical view of the way the international literature on financialization treats the determination of investment, see Medeiros and Amico (2017).

5.2 All investment is induced in the Sraffian supermultiplier

Our own research agenda on the Sraffian supermultiplier demand-led growth model was introduced by another student of Tavares in Serrano (1995a, 1995b). In this model, distribution is an exogenous parameter, determined along classical lines, in the longer run investment is induced, and the trend of growth is determined by the expansion of the autonomous components of demand that do not generate capacity for the private sector of the economy, such as autonomous capitalist consumption. The model allows the full compatibility between Kalecki's theory of effective demand and the Sraffa-Garegnani revival of the Classical Surplus approach. In this model there is no long run inverse relation between consumption and investment and also no necessary relation between distribution and accumulation.

In fact, there are only two substantive differences between the Kaleckian framework developed by Tavares in her two theses. The first is that, in the Sraffian supermultiplier, unlike in Kalecki, there is a tendency of capacity to adjust to demand and for the actual degree of capacity utilization to tend to its normal value. This adjustment of the capital stock, by its turn entails that it is the realized rate of profits (favored by Kalecki) that adjusts to the normal capacity utilization rate of profit (studied by the Sraffians). The model combines the classical inverse relation between the real wage and the general rate of profits and the kaleckian idea that the actual mass of profits is determined by capitalist's expenditures through the endogenous adjustment of the capital stock.[42]

The second difference concerns the notion of autonomous investment driven by innovations. In the Sraffian supermultiplier, gross investment is a derived magnitude and is entirely determined by the technique to be used (technical capital-capacity ratios) and the peak levels of effective demand, expected to occur during the lifetime of existing capacity and the one being installed.

[42] A set of sufficient formal conditions for this dynamic adjustment of capacity to demand to occur was provided by Fabio Freitas (a student of Possas and Serrano) in Freitas and Serrano (2015).

Profitability constraints are already taken care of, as expected effective demand is precisely the demand at the price of production that covers production costs at the normal capacity utilization of the dominant technique and a rate of profit sufficient to cover both financial and opportunity costs of capital. Financial factors are seen as constraints, rather than as direct determinants of investment (Serrano, 2001)[43].

The reason why this description of the determinants of gross investment is so parsimonious is that if more variables deemed to determine investment are added, it is easy to see that what is being assumed is quite inconsistent, i.e., that firms will want to equip themselves with more capital goods than they themselves think they will need.

Another consequence of this view of gross investment decisions as fully-induced by expected demand, is that even the traditional breakdown of gross investment into three components, namely the sum of replacement, expansionary (or net) and modernization investment is not really useful, and the consideration of the modernization as the autonomous component of investment, a notion used by Kalecki, Tavares, Garegnani and Possas and many others is really difficult to defend (Cesaratto et al., 2003).

In what regards the separate replacement component of gross investment, there is simply no reason for firms to replace worn out capital goods that provided levels of capacity for a market that has decreased in size (expected effective demand is lower than before). And we can also hardly expect that firms will want (or even be able as old equipment often is not produced anymore) to replace worn out capital goods with similar models, if improved models or version of these capital goods are available. But do we then classify the former as a negative expansionary component, and the latter as a modernization component? The same ambiguity appears in the expansionary component, if new more efficient capital goods are available and will be used, won't the new technique appear in

[43] Thus, in this view, the availability of credit may affect aggregate investment in short run situations, e.g., a major financial crisis where credit constraints are pervasive. But apart from these situations, credit constraints tend to be binding for smaller firms but usually not for many larger ones. Therefore, finance tends to be more relevant in determining which firms will invest, rather than to the determination of aggregate investment in a sector or in the economy (Serrano, 2001).

the capital-capacity ratios of expansionary investment? If the answer is yes, then what is left for the modernization or autonomous investment?

The upshot of all this is quite simple, whether or not gross investment includes innovations, firms cannot be indifferent to the capacity effects of their own decisions. Should a firm that is considering buying some new improved machine buy how many units? Therefore, all investment must depend on expected effective demand and thus all investment should be treated, in this sense, as induced.

It is true that proponents of autonomous investment since Kalecki also stress the importance of new markets, besides innovations. But a new market can only happen in the aggregate if there is either an increase in autonomous consumption rather than an increase in the marginal propensity to consume, or an increase in autonomous expenditure financed either by credit or by the monetization of accumulated wealth. This new market may have appeared because of some product innovation, but this is not autonomous investment but autonomous consumption.

There are also business expenditures in research and development for new processes or products and also “sales efforts” expenses for marketing and product differentiations. But this expenditure is also clearly not investment in the sense that they are not direct purchase of newly produced means of production.

Of course, there is no reason to assume that the levels of expected demand of all investors are consistent in the aggregate or correct in any sense, particularly in an environment in which innovations are being introduced. Kalecki (1968b) argued precisely that the firms that invest today steal market shares from the firm that invested yesterday. But Kalecki (and Tavares, Garegnani and Possas) simply add this new “autonomous” investment of the successful innovator to total investment without considering that it will probably reduce the "induced" investment of the firms that lost market share and now have unplanned spare capacity. [44]

It is true that there will always be some duplication of innovative efforts, and some investors trying to recover their market share by investing more, instead of less. But the idea that one can really generate a trend of sustained growth of investment over time based only on these redundant investments is farfetched. Besides these difficulties with the concept of autonomous investment, there is also the question of the consequences of investment that incorporates technical change on aggregate effective demand. Contrary to what is asserted by those who make recourse to autonomous investment, innovative investment may well lead to lower levels of aggregate demand. For instance, process innovations that increase labor productivity will probably increase the profit share and reduce the multiplier and induced consumption. Another example would be capital-saving technical change, that would reduce the relevant capital-capacity output ratios and make the same levels of aggregate demand to induce less gross investment than before the innovation.

These are the main reasons why in Sraffian supermultiplier all gross investment is induced by the expected trend growth of demand, and sustained demand-led growth depends crucially on the expansion of non-capacity creating components of autonomous demand and on changes in the determinants of the aggregate marginal propensity to consume (including, of course, income distribution).

5.3 Tavares and autonomous and induced investment

As we have seen above, Tavares thought that after the 1970s financial capitalism was mutating into financial globalization or financialization as a new phase of capitalist

[44] Possas and Dweck (2011) through simulations, and Fagundes and Freitas (2017) and Nah and Lavoie (2019) by means of formal dynamic stability analysis confirm the results of Cesaratto et al (2003) that increases in autonomous investment fail to generate a growth trend when the adjustment of capacity to demand is adequately modelled.

development. Moreover, since the 1980s, Tavares worked mostly and assigned greater emphasis on the determinants of autonomous investment.[45] Thus, she did not embrace the Sraffian supermultiplier approach. But on the other hand, she never abandoned the idea that the capacity effect of investment was relevant, nor stopped taking into account induced investment and thus the evolution of demand as one of the main determinants of business investment (Tavares, 1993, p. 84-85; Tavares and Metri, 2004[2020], p. 12 Tavares, 2010, p. 48) unlike what we find in the work of Braga on financialization. Indeed, in her last published work (Tavares, 2019) she states that “It is always public investment that invites the private sector to commit resources to productive activity, acting, in a sense, as the ultimate guarantor of demand (…)”.

There was no contradiction in her position of accepting the general idea of financialization but not rejecting that of induced investment. Modern large corporations are surely very much involved in many complex financial and speculative activities, often across different currencies. But that does not at all mean that, in what specifically regards decisions to acquire new fixed capital goods, capitalist firms will be indifferent to the need to consider the expected levels of effective demand during the lifetime of the equipment to be installed as a key element in such decisions. This is because the prospect of a large degree of unplanned capacity underutilization is something way too costly to be ignored, as many of us learned from Tavares’ own work and courses. But in any case, the current research agenda initiated by Braga on both broader aspects of financialization as a new phase of capitalism and their specific financial view of autonomous investment is very active nowadays both in Brazil and internationally, among heterodox economists[46].

[45] This contrast in focus from induced to the autonomous component of investment in Tavares’ and her closest associates at the Unicamp was so marked that led Serrano (2001) to identify these two phases as Unicamp I and Unicamp II. The same trend happened at UFRJ over the same period. However, since the 2010s through the influence of the supermultiplier research agenda, the influence of Tavares’ earlier phase work has been increasing again both at UFRJ (Freitas and Dweck, 2013, Summa et al, 2024) and also at Unicamp (Mandarino et al, 2020, Teixeira and Petrini, 2023, Andrade et al, 2026).

[46] In this regard, some years ago the main journal of the Institute of Economics at Unicamp, *Economia e Sociedade*, dedicated a special edition to this topic (Prates et al., 2017, ii). For a review of the literature on

By its turn, the Sraffian supermultiplier literature, which up to the mid-2010s was mostly focused with the international theoretical debates on different heterodox demand-led growth models (Freitas and Serrano, 2015), while more applied works appeared mainly in the Brazilian literature. But since then, the international literature on the Sraffian supermultiplier has also taken a more empirical turn, with the model being increasingly applied to the analysis of many concrete experiences of growth (and stagnation) regimes of both advanced and developing economies (Morlin et al., 2024, Campana et al, 2024)[47]. These studies are remarkably close to Tavares earlier works on demand-led growth.[48] The fact that both financialization and the supermultiplier, quite different current heterodox research agendas, have their origins directly in Maria da Conceição Tavares's works and teaching shows how relevant her thinking is today.

We conclude that these two agendas can correctly claim to be legitimate heirs of specific phases of her work. Tavares herself kept to her own original demand-led growth agenda, which would always retain, even in her later works, both an autonomous and an induced component, although the emphasis of her main research efforts shifted from the latter to the former, throughout her long and amazingly rich intellectual trajectory.

financialization based on a bibliometric approach for the period 1992 and 2017, see Palludeto and Felipini (2019).

[47] Notice that the use of terms "induced" versus "autonomous" present in the supermultiplier literature to discuss investment and components of demand are very much in line with the long tradition put forward by Tavares and Possas. With a great diffusion of such ideas internationally, these points had to be clarified for an audience not so familiar with those concepts (Serrano et al., 2023).

[48] See Guizzo et al. (2025) and Lavoie (2026) for the diffusion of the supermultiplier agenda within the international heterodox community, and Serrano et al. (2023) for a survey on theoretical and empirical developments in this tradition.

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