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The Post-Keynesian Model of the Firm in an Open Economy: Financialisation and Firms' Target Profit Rates in Developing and Emerging Economies

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Working Paper, No. 261/2025

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Abstract

This paper extends the post-Keynesian model of the firm to an open-economy context to investigate the determinants of firms' target profit rates in developing and emerging economies (DEEs) and the ways in which these rates have been affected by the financialisation phenomenon. Our findings show that firms' intrinsic vulnerabilities, persistent risks, and tighter financial constraints—stemming from the hierarchical structure of the international monetary system—lead to structurally higher target profit rates in DEEs compared to those in advanced economies. At the microeconomic level, we show that financialisation, in the form of increasing foreign indebtedness, can induce the firm to raise profitability targets through the finance, preference, and distribution transmission channels. Moreover, by establishing the link between the microeconomic effects of financialisation with its macroeconomic implications, we identify the conditions under which the changes in firm behaviour induced by financialisation generate either the same macroeconomic outcomes or micro-macro fallacies, giving rise to a paradox of profits, a paradox of growth, a paradox of risk and a paradox of liquidity.

Key words: target profit rates, financialisation, theory of the firm, foreign indebtedness, portfolio dollarisation

JEL code: D21, E12, F33, F41

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Acknowledgements: I am most grateful to Eckhard Hein for his guidance and essential feedback on this paper. Furthermore, I have benefited from helpful and interesting comments by colleagues of the Growth Regime Working Group of the Institute for International Political Economy Berlin. Moreover, I am grateful to Marc Lavoie and Pablo Bortz for their valuable comments on an early version of this paper. All remaining errors are my own, of course.

1. Introduction

There is growing evidence that the minimum rate of profit at which companies are willing to invest has remained high and relatively stable over the last twenty years or more (Edwards & Lane, 2020; Gormsen & Huber, 2024; JP Morgan, 2016; Sharpe & Suarez, 2021). In post-Keynesian theory, this rate of profit is determined by the various constraints that firms face during their growth process, including not only financial constraints but also those related to competition, knowledge, technology and labour costs (Lavoie, 2022; Wood, 1975). Furthermore, with the rise of financialisation and the spread of the shareholder value orientation among firms in advanced economies (AEs), profitability targets have been also shaped by shareholders' demands (Lavoie, 2022; Stockhammer, 2004).

The post-Keynesian model of the firm, which represents under the so called finance and expansion frontiers the main constraints the firm face in its growth process, has been extensively used to illustrate how corporate financialisation has shaped target profit rates and investment decisions in AEs (Dallery, 2009; Lavoie, 2022; Rabinovich, 2019; Stockhammer, 2004; Hein & Van Treeck, 2010; Feiner Solís, 2021). This framework operates under two main assumptions: either managers retain some power over the firm's strategies, albeit constrained by shareholder's demands, or the objectives of the firm align with those of the shareholders, who prioritize short-term profitability over long-term expansion. These new strategies have been interpreted in the model through changes in the parameters of the finance and expansion frontier or in managers' utility function, which affects the targeted point on the expansion frontier and reflects firms' stronger commitment to profitability.

Furthermore, post-Keynesian authors have emphasized the importance of establishing a link between the microeconomic aspects of financialisation and its macroeconomic implications, as these dynamics ultimately shape the finance and expansion frontiers faced by firms (Hein & Van Treeck, 2010; Dallery, 2009; Dallery & Van Treeck, 2009). For instance, if all firms increase dividend payouts to shareholders, the effect on aggregate demand and capital accumulation can be either positive or negative, depending on various factors, such as the reliance of investment on internal sources of finance and its sensitivity to profitability levels, and the propensity to consume of rentiers, to whom income is redistributed via dividends and interest payments (Hein & Van Treeck, 2010). If overall aggregate demand declines as a result of shareholder rising power, it might be harder for the individual firm to achieve its profitability goals as its expansion frontier shift downward due to the lower rate of capacity utilization (Dallery, 2009).

To examine these micro–macroeconomic links of financialisation, Hein & Van Treeck (2010) propose to integrate the channels through which financialisation influences the behaviour of the firm, namely the internal means of finance, preference, and distribution channel, into Kaleckian models of growth and distribution. Through this approach, they examine how the equilibrium values of capital accumulation, capacity utilization, and the profit rate vary when shareholder power increases. This framework gives rise to three distinct accumulation regimes— 'contractive,' 'profit-without-investment,' and 'finance-led growth'—each of which reshapes firms' financial and expansion frontiers and generate either micro–macro identities or paradoxes, when the firm's targets are not realized once the macroeconomic feedbacks of its changing behaviour are taken into account.

However, in the context of DEEs, the relationship between firms' target profit rates and financialization remains largely unexplored, both at the theoretical and empirical level. Investigating these issues is crucial for at least two reasons. First, firms in DEEs face more severe financing constraints stemming from the hierarchies imbedded in the international monetary and financial system (Andrade & Prates, 2013, Kaltenbrunner & Painceira, 2015). These include higher borrowing costs, liabilities denominated in foreign currencies, greater reliance on internal funds, exposure to exchange rate volatility and the need to maintain high margins of safety to cope with macroeconomic instability, among other factors. The traditional post-Keynesian model of the firm does not account for these specific features of DEE firms, which are likely to play a significant role in shaping both target profit rates and investment decisions. Second, financialisation manifests differently in these economies. While the shareholder value orientation is a dominant feature in AEs, it plays a far less prominent role in DEEs (Torija Zane & Gottschalk, 2018). Instead, the international dimension of financialisation is of key importance, as DEE firms have become increasingly integrated into global financial markets (Allami & Cibils, 2024; Kaltenbrunner et al., 2024; Lampa et al., 2022; Bortz & Kaltenbrunner, 2018). These authors highlight the surge in external borrowing denominated in foreign currency and the growing accumulation of financial assets—including cash holdings and portfolio dollarisation—as key features of corporate financialisation in DEEs. Therefore, the mechanisms through which financialisation can affect firm behaviour and shape target profit rates in DEEs differ significantly from those identified for AE firms.

This paper seeks to address the existing research gap by investigating the main determinants of firms' target profit rates in DEEs, and the channels through which financialisation may affect firms' investment decisions and profitability requirements at both the microeconomic and macroeconomic levels. To this end, we follow the approach applied by Hein & Van Treeck (2010) for the case of AE firms and we extend these analyses for the case of DEE firms.

We first extend the post-Keynesian model of the firm to an open-economy context to incorporate the specific financial constraints faced by DEE firms, which are emphasized by the literature of currency hierarchies. We then introduce financialisation into the model, with particular emphasis on the effects of increased foreign indebtedness on the behaviour of the firm. At the microeconomic level, we revise the three channels of financialisation—finance, preference, and distribution—originally identified by Hein and Van Treeck (2010). We argue that higher levels of foreign debt shape the firm's investment decision and target profit rate through these channels, albeit the way they operate differ significantly from those observed in AE firms. Finally, we turn to the macroeconomic implications of rising private external debt and we examine the link between the changes in firm behaviour and these aggregate outcomes. For this purpose, we integrate the finance and preference channels into a framework of alternative macroeconomic regimes, as identified by Bortz et al. (2018). These regimes are defined by the impact of increasing external debt—driven by lax global risk perceptions—on the equilibrium levels of capacity utilisation and the wage share under a Kaleckian model of growth and distribution for an open economy. By doing so, we aim to assess how the implications of rising private external borrowing for income distribution and aggregate demand affect the firm's finance and expansion frontiers—thereby influencing its target profit rates and capital accumulation paths. Moreover, we identify the conditions under which micro–macro identities or paradoxes arise.

Our central hypothesis is that high target profit rates observed in DEE firms do not necessarily reflect shareholder pressures, as is typically the case in AEs, but rather reflect firms' structural

vulnerabilities and persistent risks associated with the hierarchical structure of the international monetary and financial system. Financialisation—in the form of rising foreign indebtedness and portfolio dollarisation—increases firms' financial fragility and costs, which include not only debt servicing costs but also costs of holding unproductive resources in the form of liquid assets for precautionary motives. This, in turn, can further tighten their financing constraints and expand their expansion frontier if they are able to pass higher costs into prices through higher mark-ups, ultimately leading to higher target profit rates and lower accumulation rates.

The structure of the paper is as follows. Section 2 explores the determinants of the firm's target profit rate in DEEs. It begins by presenting the traditional post-Keynesian model of the firm and then introduces a revised version of the finance frontier that accounts for the specific financial constraints faced by firms in DEEs. Section 3 analyses the microeconomic channels through which financialisation affects the firm's investment decisions and target profit rate. That is, we first adopt the perspective of the individual firm, assuming that other firms do not change their behaviour, in order to examine how the firm's increasing foreign indebtedness has triggered changes in its financial decisions and objectives. Section 4 presents the macroeconomic implications of financialisation, focusing on the effects of rising (private) foreign debt on aggregate demand and the profit share. We then investigates the micro–macroeconomic links of financialisation by integrating the finance and preference transmission channels into the alternative macroeconomic regimes proposed by Bortz et al. (2018). Section 5 summarises the findings and concludes.

2. Target Profit Rates and Investment Decisions in Post-Keynesian Theory

2.1 The Post-Keynesian Model of the Firm

In post-Keynesian theory, there is general agreement that the ultimate objective of the firm is to obtain power (Wood, 1975; Lavoie, 2022). In a world of uncertainty, power enables the firm to influence the environment in which it operates, including its social, economic, and political spheres, as well as to secure access to information, finance, and markets. Since larger firms tend to wield greater control over markets and society, achieving high growth rates becomes the final goal of the post-Keynesian firm (Lavoie, 2022).

Although growth strategies and investment decisions are primarily driven by demand, they are also constrained by required profitability, i.e. a minimum rate of profit at which firms are willing to invest (Wood, 1975; Lavoie, 2022; Crotty, 1992). Post-Keynesians argue that this target rate of profit is determined by the firm's financial constraints, its ability to control input and labour costs, enhance market power, manage competition, and acquire knowledge and technology. In the model of the firm, these determinants are represented by the 'finance frontier' and the 'expansion frontier', as referred to by Lavoie (2022).

The finance frontier indicates the rate of profit required to finance a given growth rate. From both Kaleckian and Minskyan perspectives, profits, in the form of retained earnings, enable financing-constrained firms to undertake their investment plans (Lavoie, 2022; Fazzari et al., 1988). Kalecki (1937)'s principle of increasing risk emphasizes the importance of internal finance not only to compensate for the borrowing limits imposed by lenders and borrowers but also to extend these limits —for instance, by enhancing creditworthiness. Due to uncertainty about future outcomes and the returns of investment projects, creditors make their lending decisions based on firms' historical performance and profitability (Lavoie, 2022). Thus,

profitability becomes a prerequisite for accessing external finance, including bond and equity markets. In addition, the firm faces internal constraints based on its own degree of risk aversion. To reduce the risk of insolvency associated with high leverage ratios and potential earnings volatility, the firm often limits borrowing and prefer to finance a portion of its investments through internal funds.

Furthermore, internally generated funds, such as retained earnings and cash flows, have a cost advantage over borrowing and equity financing (Fazzari et al., 1988). The authors emphasize the role of asymmetric information in debt and equity markets as a key factor explaining differences in financing costs at the firm level: as finance providers cannot perfectly assess the profitability of firms' investment opportunities, small and medium-size firms face higher costs for both debt and new equity issuance and have less access to bond market and bank lending compared to mature and high-dividend-paying firms. Empirically, Fazzari et al. (1988) show that the financial structure of the firm plays a key role in explaining differences in investment behaviour among firms as investment levels are highly sensitive to firms' cash flows and liquidity holdings.

Following Lavoie (2022), the finance constraint of the firm can be expressed as:

$$I + \mathrm{f_f}\, I = xI + s_f\,(P - i_B B + i_F F) + \hat{B}B \qquad (1)$$

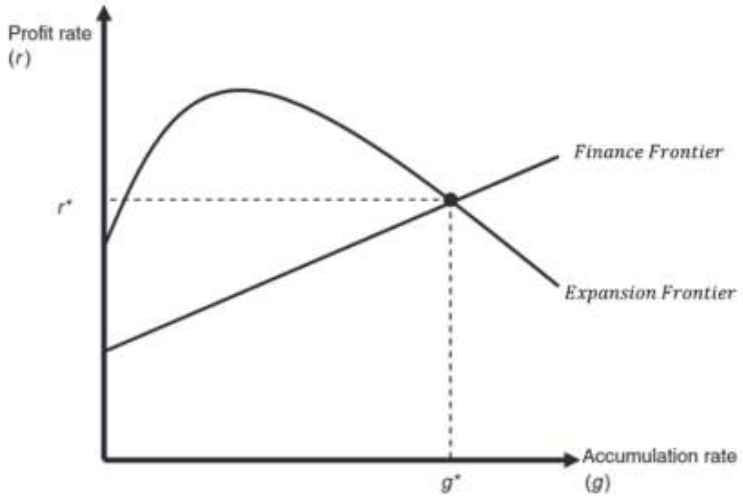
Firms invest in physical assets (I) and a proportion $\mathrm{f_f}$ of tangible investments in financial assets. These investments are financed by the issue of new shares (xI), new debt ($\hat{B}B$) or by internal funds – as a proportion s_f of profits is retained after interest payments ($i_B B$) and income received from financial asset ($i_F F$). Assuming a long run equilibrium growth path, with constant debt-to-capital and financial asset-to-capital ratios, and dividing through by capital (K), we obtain the long-run finance frontier of the firm:

$$\mathrm{r} = (i_B \mathrm{l} - i_F \mathrm{f_f}) + \mathrm{g}\,\frac{(1 - x - \mathrm{l} + \mathrm{f_f})}{\mathrm{s_f}} \qquad (2)$$

This equation shows that the required rate of profit (r) increases with the interest rate on borrowed capital (i_B), the share of investment in financial assets ($\mathrm{f_f}$), and the proportion of investment financed internally (1-x-l). Conversely, it decreases with higher leverage (l), greater equity financing (x), a higher retention ratio ($\mathrm{s_f}$), and interest on financial assets (i_F). Moreover, the higher the rate of growth of the firm (g), the higher the rate of profit required by the firm.

Figure 1, which represents the finance and expansion frontier of the firm, illustrates the positive relationship between capital accumulation and firms' required rate of profit reflected in the finance frontier. That is to say, the faster a firm wants to grow, the higher the rate of profit needed to finance its capital investments, holding other factors of equation (2) as constant. Furthermore, changes in the firm's financial decisions, as well as changes in the cost of debt, will result in shifts of the finance frontier. For instance, an increase in the interest rate on borrowed capital will raise firms' debt servicing costs, the finance frontier will shift upwards and the firm will now require a higher profit rate to finance a given rate of growth.

Figure 1: The Traditional Post-Keynesian Firm



Source: Dallery (2009)

The expansion frontier reflects the maximum rate of profit a firm can achieve for a given growth rate. Following Dallery (2009), the expansion frontier can be expressed as:

$$\mathrm{r} = \frac{\Pi}{\mathrm{K}} = \frac{\Pi}{\mathrm{Y}}\frac{Y}{\mathrm{Y}^*}\frac{\mathrm{Y}^*}{\mathrm{K}} = \frac{\pi u}{v} \qquad (3)$$

where π denotes the profit share, u is the rate of utilization of the firm's productive capacity and v is the ratio of capital stock to full-capacity output. While forces affecting the growth-profit trade-off at the microeconomic level determine the shape of the expansion frontier, its position depends on macroeconomic factors affecting the firm's profit margin, such as the level of competition in the market, the bargaining power of workers and the rate of capacity utilization (Dallery, 2009).

At the microeconomic level, the upward-sloping portion of the expansion frontier reflects productivity gains as the firm invests and adopts more efficient production technologies. For low rates of growth, capital investment contributes to reduce unit costs, and the firm is able to increase its profit margins, and thus the rate of profit, without raising prices. Moreover, temporary monopoly rents from diversification into new markets can also contribute to higher rates of profit. However, as the firm grows faster, the relationship between capital accumulation and profit rate reverses. This is known as the Penrose effect, which illustrates the limitations faced by the firm in handling higher rates of expansion (Lavoie, 2022). These limitations arise from both the higher costs of training new managers within the organization, and the increasing risks associated with external expansion, particularly when the firm seeks to diversify into new markets and products of which it has little knowledge. Furthermore, Wood (1975: 66) highlights the higher costs incurred by the firm when it seeks to further expand internally. In this case, the firm often engages in non-price forms of competition to increase its market share, which raises costs related to advertising, innovation and research and development. This increases unit costs, reducing the profit margin and, consequently, the rate of profit.

The position of the expansion frontier depends on the firm's chosen standard rate of capacity utilization and on macroeconomic influences on the profit margin, such as the level of market competition and workers' bargaining power (Dallery, 2009). For instance, a higher degree of

market concentration or lower bargaining power of workers can lead to a higher profit margin and expanded expansion frontier for the individual firm, assuming that the behaviour of other firms remains constant.

Since we are dealing with a growth-maximizing firm, the intersection of the finance and expansion frontiers indicates the point at which the firm will decide to operate. At this point, the firm invests as much as allowed by its financial constraint and the factors influencing its expansion frontier. As shown in Figure 1, a post-Keynesian firm will growth at a rate "g*" and target a profit rate equal to "r*", which coincides with the required rate of profit given by the finance frontier[1].

2.2 Financing Constraints in DEEs: Revisiting the Post-Keynesian Model of the Firm

When applying the post-Keynesian model of the firm to DEEs, it is essential to account for additional factors stemming from the hierarchical structure of the international monetary and financial system that affect the firm's financing constraint. The relationship between global monetary asymmetries and financing constraints in DEEs has been largely explored by the literature of currency hierarchy (Alami et al., 2023; Andrade & Prates, 2013; de Paula et al., 2017; De Paula et al., 2024). Based on Keynes' theory of liquidity preference, this literature posits that the international monetary system encompasses a hierarchy of currencies based on their liquidity premiums. The liquidity premium depends on the currency's ability to perform domestically and internationally the functions of money, particularly the unit of account and store of value. The currency offering the highest liquidity premium sits at the top of the pyramid, currently represented by the US dollar, while at the bottom are the currencies of DEEs, which are characterized by lower liquidity premiums (Andrade & Prates, 2013).

Being at the bottom of the currency hierarchy not only constrains domestic macroeconomic policies but also has significant implications for financial vulnerability and instability (Andrade & Prates, 2013; Bortz & Kaltenbrunner, 2018). A direct manifestation of these global asymmetries is the high volatility of capital flows and their impact on both exchange rates and interest rate policies. The low liquidity premium of DEE currencies makes them targets for short-term and speculative capital flows within an international financial system where cross-border financial flows are primarily determined by the monetary policy in advanced economies, the VIX[2], which reflects investors risk aversion and uncertainty, and international investors' liquidity preferences (Andrade & Prates, 2013; Rey, 2013; Abraham et al., 2020). Restricted monetary policies in developed economies and a high degree of risk aversion and liquidity preference of investors are associated to increasing capital outflows from DEEs. As a result, DEEs are exposed to a high degree of vulnerability as any change in international financial conditions can trigger capital flight toward currencies with higher liquidity premiums—the so-called 'flight to safety' (Andrade & Prates, 2013). Furthermore, because capital flows tend to be large relative to the size of domestic financial systems, they have the potential to significantly influence asset prices in DEEs, including the exchange rate, whose fluctuations are primarily driven by cross-border flows (Kaltenbrunner, 2015; Andrade & Prates, 2013). Consequently, central bankers' policies in DEEs are highly influenced and constrained by the

[1] Firms' *target* profit rate may diverge from the *required* rate of profit, represented in the finance frontier, particularly in the financialisation period, as we will see in Section 3, when firms do not necessarily aim to maximize growth.
[2] The VIX, which stands for "Chicago Board Options Exchange Market Volatility Index", is a measure of the expected volatility of S&P 500 index options.

monetary policy of AEs, as they are often compelled to set higher interest rates to maintain demand for their currencies and prevent excessive fluctuations in the exchange rate.

Global monetary hierarchies are further reflected in the inability of DEE actors to borrow abroad in domestic currency, as well as in the necessity for DEE central banks to accumulate international reserves (Eichengreen et al., 2023; Andrade & Prates, 2013). With a currency mismatch in their balance sheets, DEEs are highly vulnerable to fluctuations of the exchange rate, which increase the burden of the foreign currency denominated debt and impose significant financial risks for the whole economy, as foreign currency liabilities do not only affect the public sector but also the corporate financial and non-financial sector. As Andrade & Prates (2013) claim, this financial risk together with the implications of exchange rate fluctuations on domestic prices, underline the 'fear of floating' in DEEs. To avoid fluctuations of the exchange rate and its consequences for financial instability, DEEs hold high levels of international reserves, that expand the capacity of central bankers to intervene in foreign exchange markets and provide foreign liquidity during episodes of sudden capital outflows. However, maintaining such reserves entails a significant opportunity cost: not only could these resources be deployed for productive investment, but the returns on reserve holdings are very low. Similarly, DEE firms must hold foreign-currency-denominated financial assets to hedge against the currency mismatches arising from external debt obligations—a practice particularly important for importing firms and those operating in non-tradable sectors.

To account for these factors, we need to extend the post-Keynesian model of the firm to an open-economy context. Both sources and uses of funds of equation (1) must be adjusted. Regarding sources of funds, it is necessary to distinguish between borrowing costs in international and domestic financial markets, while also accounting for the currency denomination of external debt and the effect of exchange rate on the firm's debt service payments. Regarding the uses of funds, it is important to differentiate between investment in low-yielding and foreign currency-denominated financial assets, which reflect the need to hedge against currency mismatches, and high-yield financial assets in domestic currency.

The finance constraint of the firm in (1) then becomes as following:

$$I + \mathrm{f^*_f}\, I\, e + f_f^d I = xI + s_f \left[P - i_B^d\, B^d - (i_B^* + \rho) B^*\, e + i_F^d F^d + i_F^* F^* e\right] + \hat{B}(B^* e + B^d) \qquad (4)$$

Thus, DEE firms invest a proportion $\mathrm{f^*_f}$ of investment in physical assets in low-yielding and foreign currency-denominated financial assets ($\mathrm{F^*}$), that yield a return (in domestic currency) equal to $\mathrm{i^*}_F\, e$, where 'e' is the exchange rate; and a proportion $\mathrm{f^d_f}$ in high interest-bearing financial assets in domestic currency ($\mathrm{F^d}$), with a return equal to $\mathrm{i^d_F}$. Moreover, DEEs firms borrow from the domestic financial market ($\mathrm{B^d}$) at an interest rate $\mathrm{i^d_B}$ and from international financial markets ($\mathrm{B^*}$) at an interest rate given by $(\mathrm{i^*_B} + \rho)$; where $\mathrm{i^*_B}$ is the foreign interest rate and ρ represents the country risk premium.

It is important to emphasize the exogenous factors affecting $\mathrm{f^*_f}$ and $\mathrm{B^*}$ in the model, namely the decisions to invest in foreign-currency-denominated financial assets and to increase external borrowing. We assume that the firm will allocate a higher proportion of its investments to low-yielding, foreign currency-denominated financial assets when the differential between returns on domestic and foreign financial assets narrows and, more importantly, when the firm's external leverage ratio is higher, as this increases currency mismatches. Moreover, as emphasized in the post-Keynesian literature, debt issued in international financial markets ($\mathrm{B^*}$) largely depends on the monetary policy of AEs and the degree of risk aversion of international

investors. Therefore, accommodative monetary policies in AEs and lax global risk perceptions tend to increase the external debt level of the firm.

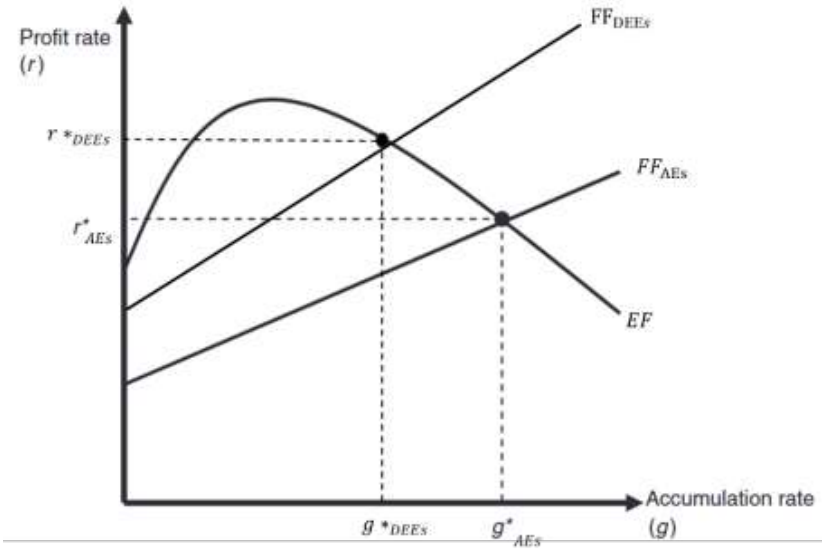
Dividing equation (4) through by capital (K), we obtain the finance frontier:

$$\mathrm{r} = [i_B^d l^d + (i_B^* + \rho) l^* e - i_F^d f_f^d - i_F^* f_f^* e] + \mathrm{g}\,\frac{(1 - \mathrm{x} - \mathrm{l}^* e - l^d + \mathrm{f}^{\mathrm{d}}{}_{\mathrm{f}} + \mathrm{f}^*{}_{\mathrm{f}}\, e)}{\mathrm{S_f}} \qquad (5)$$

The novelty of equation (5), compared to equation (2), lies in the fact that the DEE firm requires a higher profit rate the higher the foreign interest rate, the country risk premium, the share of foreign-currency financial investments (reflecting portfolio dollarization), and the more depreciated domestic currency, as a higher exchange rate increases debt servicing costs and, consequently, the profit rate required to finance any given rate of capital accumulation.

Figure 2 illustrates the tighter finance constraints of the DEE firm stemming from global monetary and financial asymmetries. Particularly, they reflect higher borrowing costs, a greater reliance on internal financing—due to both underdeveloped domestic financial markets and relatively limited access to international capital markets—and heightened exposure to exchange rate fluctuations, both operationally and on the balance sheet. Moreover, they also reflect the higher margin of safety that a DEE firm needs to set to mitigate the risk of insolvency or financial instability. This can entail limiting borrowing—particularly foreign currency-denominated external debt— as well as higher holdings of liquid financial assets, primarily in the form of cash and foreign currency deposits to reduce currency mismatches. Consequently, as depicted in Figure 2, a growth-maximizing firm in a DEE will invest less and target a higher profit rate than a firm in an advanced economy. This also implies that, for all growth rates, the DEE firm requires a higher profit rate than its AE counterpart to finance its investment strategies.

Figure 2: Target Profit Rate and Investment Decisions: DEE and AE Firm Compared



Source: own depiction based on Dallery (2009)

3. Financialisation and Target Profit Rates: A Microeconomic Perspective

The post-Keynesian model of the firm has been extensively used to illustrate how financialization has influenced the firm's investment decisions and target profit rate in advanced economies, primarily through the phenomenon of shareholder value orientation (SVO) (Dallery, 2009; Lavoie, 2022; Rabinovich, 2019; Stockhammer, 2004; Hein & Van Treeck, 2010; Feiner Solís, 2021). Within this framework, the firm either remains growth-oriented, albeit constrained by shareholder demands, or fully aligns its objectives with shareholder interests, prioritizing short-term profitability over long-term expansion and growth. In both cases, financialization reshapes the firm's financial and growth strategy, leading to a lower accumulation rate and higher target profit rate.

From the perspective of the individual firm, Hein and Van Treeck (2010) highlights two main channels through which financialization influences firm behaviour. The first one is the *internal means of finance* channel, which reflects the tightening of financing constraints as the firm responds to shareholder pressures for higher dividend payouts, increased leverage to raise the return on equity, and share buybacks. While the firm still prioritizes growth, these practices reduce the internal funds available for investment. Consequently, the firm invests less and requires a higher rate of profit compared to the pre-financialisation period. The second channel is the *preference* channel, whereby managers become more profit-oriented as their compensation is increasingly tied to firm profitability and financial market performance. That is to say, the objective of the firm changes as managers prioritize higher profitability levels rather than long-term growth. As a result, the firm will no longer operate at the point of intersection between the finance and expansion frontiers. Instead, it moves along the expansion frontier and operates above its finance frontier, which allows the firm to increase free cash flows to be used to distribute dividends and engage in share buybacks.

Furthermore, the authors add the possibility of a third channel, the *distribution channel*, through which the firm passes on to prices the costs of higher interest and dividend payments to rentiers and shareholders, respectively. As the authors claim, the increase in mark-ups is possible if the market power of the firm increases with financialisation. This might be the case when good markets become more concentrated —for instance, as a consequence of mergers and acquisition and hostile takeovers— and workers' bargaining power is weakened — as institutional changes allow managers to deflect shareholder pressure onto workers, primarily by reducing labour costs and downsizing the workforce.

In DEEs, however, financialization manifests differently. While the shareholder value orientation phenomenon is less prevalent, the international dimension of financialisation plays a much more prominent role (Torija Zane & Gottschalk, 2018; Bortz & Kaltenbrunner, 2018). In the following sections, we argue that financialisation may have also shaped the DEE firm behaviour through the finance, preference, and distribution channels. However, the nature and functioning of these channels differ significantly from those identified by Hein and Van Treeck (2010) in the context of AEs.

3.1 The Financialisation of DEE Firms: The Relevance of the International Dimension

Various factors pose a significant obstacle to the diffusion of the shareholder value logic in DEEs. Torija Zane & Gottschalk (2018) highlights the highly concentrated ownership structure of firms, the reliance on non-voting shares, which restricts shareholders' direct influence over company decisions, the relatively underdeveloped domestic financial markets in DEEs, which

are characterized by low levels of stock capitalization and liquidity, and the dominant role of the state as the primary shareholder in companies operating in strategic sectors.

In contrast, post-Keynesian authors attribute a prominent role to the international dimension of financialization in DEEs, according to which the expansion of finance is related to a set of external factors, such as capital flows, global liquidity and the existence of a global financial cycle (Bortz, 2018; Alami et al., 2023; Bortz & Kaltenbrunner, 2018). At the firm level, the financialisation phenomena has been related to the firm's rising involvement with (international) financial markets, both in the asset and liability side of its balance sheet (Kaltenbrunner & Painceira, 2015; Vernengo & Perez Caldentey, 2021; Bortz & Kaltenbrunner, 2018; Perez Artica & Rabinovich, 2023; CEPAL, 2019; Lampa et al., 2022). On the liability side, DEEs firms have significantly increased their external borrowing in the last two decades, including not only cross-border banking lending but also international bond issuance and intercompany loans (Abraham et al., 2020; IMF, 2022). The characteristic of DEEs firms' external borrowing, namely short-term and denominated in foreign currency, have increased maturity and currency mismatches in their balance sheets, and therefore their financial exposure (IMF, 2022). Moreover, increased borrowing has not translated into higher levels of productive investment. In contrast, on the asset side, DEE firms have significantly increased their cash and short-term financial investments, including highly liquid assets and cash holdings in foreign currency (Abraham et al., 2020; Vernengo & Perez Caldentey, 2021; Kaltenbrunner & Painceira, 2015; Perez Artica & Rabinovich, 2023; Lampa et al., 2022).

Some authors argue that these changing financial practices have been driven by speculative and profit-seeking motives (Hardy & Saffie, 2019; Bruno & Shin, 2017; Kaltenbrunner & Painceira, 2015; Vernengo & Perez Caldentey, 2021; CEPAL, 2019). For example, Bruno & Shin (2017) suggest that DEE firms' international corporate debt has been linked to carry trade operations, where firms borrow in dollars abroad to invest in domestic currency assets, taking advantage of high domestic interest rates and favourable exchange rate movements. Similarly, Vernengo & Perez Caldentey (2021) and CEPAL (2019: 187) claim that firms have become financial intermediaries by issuing bonds in international bond markets and channelling those funds through intercompany loans rather than using them for investment in the real sector. In this regard, CEPAL (2019: 187) also argues that there is empirical evidence indicating that intercompany debts have been used to accumulate liquidity and fund short-term investments. Additionally, Kaltenbrunner & Painceira (2015) argue that firms' activities in local derivative markets to hedge export earnings have been speculative on some occasions, aiming to profit from potential exchange rate fluctuations.

However, many authors challenge this narrative, arguing that firms' changing behaviour reflect the hierarchies embedded in the international monetary and financial system, and the subordinate position that DEEs occupy within it (Kaltenbrunner et al., 2024; Lampa et al., 2022; Perez Artica & Rabinovich, 2023). In this sense, Kaltenbrunner et al. (2024, p. 3) contend that, contrary to speculative or profit-seeking motivations, the "dynamics of international borrowing have been driven predominantly by conditions in international financial markets, as loose monetary conditions allowed ECE firms to access international financial markets". There is broad agreement that accommodative monetary policies in AEs following the global financial crisis significantly contributed to the rise in private foreign debt in DEEs, including among non-financial corporations (Abraham et al., 2020; CEPAL, 2019; Fernandez et al., 2018). As Kaltenbrunner et al. (2024) argue, DEE firms take the opportunity to borrow abroad when possible because international financial markets often offer cheaper and longer-

term funding than domestic financial markets. Moreover, the authors show that DEE firms have often incurred significant financial losses from international borrowing, with liability payments frequently exceeding earnings from financial assets.

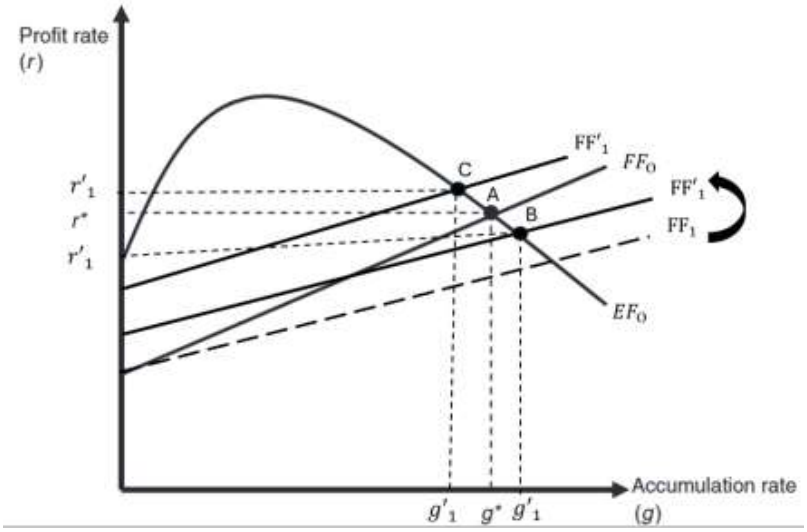
Furthermore, many authors contend that the growing accumulation of liquid assets—including cash and foreign currency-denominated assets— has been mainly driven by precautionary motives, as firms seek to protect themselves from macroeconomic and financial vulnerabilities (Kaltenbrunner et al., 2024; Perez Artica et al., 2019; Lampa et al., 2022; Schorr & Wainer, 2020). As the authors claim, this also reflects the global monetary and financial hierarchies as DEE firms are often compelled to issue high-yielding bonds while simultaneously holding highly liquid, low-yielding financial assets as a buffer against volatile economic conditions and to mitigate the risk of financial instability. In this regard, CEPAL (2018: 151) argues that there is a non-linear relationship between cash flows (derived from bond issuance in international financial markets) and investment. The authors contend that beyond a certain leverage ratio threshold, cash flow and investment exhibit a negative relationship, as firms become more financially constrained and thus prefer to increase their cash holdings to safeguard against liquidity shortages and potential insolvency. Similarly, Perez Artica et al. (2019)' findings reveal there is a positive correlation between firms' degree of exposure to exchange rate fluctuations and cash holdings. Perez Artica & Rabinovich (2023) also found that exchange rate volatility has a significant positive impact on firms' cash holdings. In a similar vein, Lampa et al (2022) and Pesce & Feldman (2023) highlight the precautionary motive behind firms' portfolio dollarisation.

3.2 Revisiting the Finance, Preference, and Distribution Channels for the DEE Firm

Given the way financialisation manifests in DEEs, we focus on the mechanisms through which a higher external leverage ratio, driven by lax global risk perceptions, has shaped the behaviour of the firm, influencing its investment decisions and target profit rate.

From the perspective of the individual firm, Figure 3 illustrates the effects of rising external debt using the post-Keynesian model of the firm with the revised finance frontier (equation (5)). As it can be seen in equation (5), a higher external debt-to-capital ratio (l^*) has two opposing effects on the finance frontier of the firm. On one hand, the slope of the finance frontier decreases, enabling the firm to increase capital investment. With greater access to external borrowing, the firm requires a lower profit rate to sustain a given growth rate, as a larger share of funding can be sourced externally rather than from internal resources. As shown in Figure 3, the finance frontier flattens, represented by the dashed curve (FF_1), indicating a loosening of the firm's financial constraint. On the other hand, a higher external debt-to-capital ratio implies that debt servicing payments increase, represented by the term $[(i_B{}^* + \rho)\, l^* e]$ in equation (5). Therefore, as interest costs on foreign debt stock rise, the firm loses internal means of finance. The higher debt servicing payments shift the finance frontier upward (FF'_1) and the overall effect on capital accumulation and target profit rate is unclear. The firm's final finance frontier may lie either at point B, with a higher rate of growth and a lower target profit rate, or above point A, at point C, if interest costs are sufficiently high, thereby leading to a lower level of capital accumulation and higher target profit rate.

Figure 3: Lax Global Risk Perceptions and Rising Foreign Indebtedness at the Firm Level



Source: own depiction based on Dallery (2009)

Empirical evidence shows that companies have accumulated external debt in excess of what is necessary to finance their productive investment needs and that capital investment has not increased as expected (CEPAL, 2019, 2018; Abraham et al., 2020; Perez Artica et al., 2017). In this context, we argue that rising foreign indebtedness has influenced the investment decisions and target profit rate of the firm through the finance, preference, and distribution channels, as originally identified by Hein and Van Treeck (2010). However, we propose an alternative interpretation of these channels that captures the distinct dynamics of DEEs.

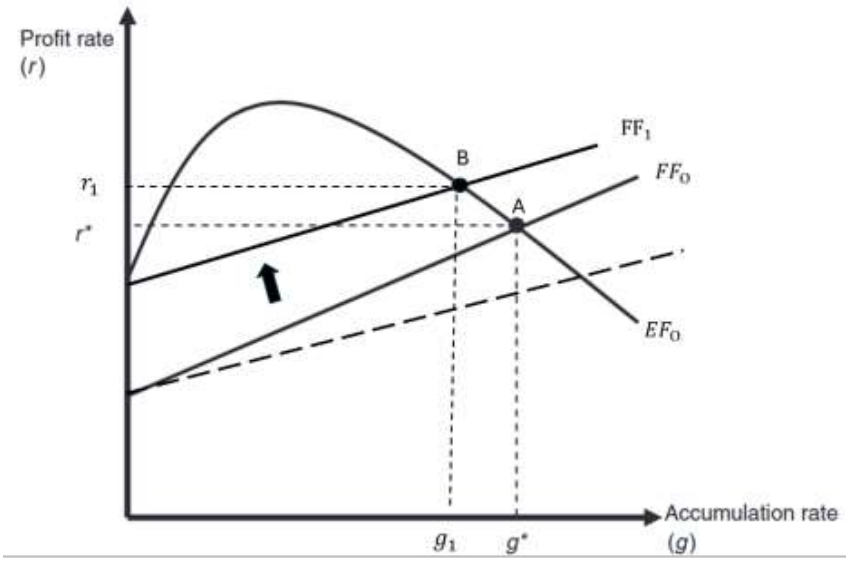
Through the *finance channel*, the firm loses internal means of finance as its debt-servicing costs increase and because it diverts a substantial portion of external debt away from productive investment toward the acquisition of new financial assets. In contrast to the AE firm, which often incurs debt to boost returns on equity, higher indebtedness of the DEE firm is largely driven by shifts in international financial market conditions that expand access to external credit. As the literature on financialization emphasizes, the firm often seizes such opportunities even when it does not have an immediate need to invest, motivated by the prospect of securing cheaper financing than what is available in domestic markets. Moreover, the acquisition of financial assets does not necessarily reflect the pursuit of short-term and high returns driven by shareholder pressure, as is often suggested by the financial turn of accumulation hypothesis (Rabinovich, 2019). Rather, as argued above, it highlights intrinsic vulnerabilities of the DEE firm, which is compelled to engage in active portfolio management and portfolio dollarisation as a precautionary strategy to guarantee a certain degree of stability in a context of macroeconomic volatility.

The finance channel is illustrated in Figure 4. Initially, in the pre-financialisation period, the firm is positioned at point A, in the intersection of its expansion (EF_0) and finance frontier (FF_0). With the increased in the external leverage ratio, not only debt servicing payments rise, as it was shown in Figure 3, but also the firm increases the proportion of investments allocated to financial assets (that is f^d_f and f^*_f in equation (5)), further restricting internal means of finance. When we account for both effects, the higher interest costs on foreign debt stock and the

higher proportion of investments allocated to financial assets, the overall results correspond to a tighter financial constraint for the firm. As illustrated in Figure 4, the finance frontier shifts upwards to FF_1 and the firm operates at point B, with a lower rate of capital accumulation (g_1) and a higher target profit rate (r_1) compared to the pre-financialisation period. Moreover, the higher the proportion of low-yielding and foreign currency–denominated financial assets (f^*_f), the stronger the upward movement of the finance frontier, as the income generated from these financial investments is lower.

It is important to note that, as in Hein & Van Treeck (2010), the firm continues to prioritize growth over profits when the finance channel is at play. The higher target profit rate and lower capital accumulation rate do not indicate a shift in the firm's goals but rather reflect the tighter financial constraints it faces due to increased debt servicing costs and the need to allocate a higher proportion of investment to financial assets for precautionary motives when the external leverage ratio rises.

Figure 4: The Finance Channel



Source: own depiction based on Dallery (2009)

In contrast, the *preference channel* of influence of financialisation implies a shift in the firm's main objective: an increase in the external leverage ratio weakens its commitment to growth while heightening concerns about financial stability. In this sense, under the preference channel, the firm becomes more profit-oriented and focused on increasing free cash flows. Contrary to what has been argued for the AE firm, the pursuit of high profitability and free cash flows does not necessarily reflect stronger shareholder pressure to raise dividend payments or conduct share buybacks nor changes in managers' remunerations (Dallery, 2009; Hein & Van Treeck, 2010; Stockhammer, 2004). We argue that, while the pursuit of higher free cash flows may also serve to repatriate profits to headquarters located abroad—a common practice among multinational corporations operating in DEEs (Lampa et al., 2022)— the primary motivation is related to the need to ensure debt repayment and maintain high margins of safety, in the form of liquidity holdings. In a context of elevated external leverage and macroeconomic instability, including exchange rate volatility, this is necessary to reduce financial distress. In other words, the DEE firm may prioritize financial stability over growth

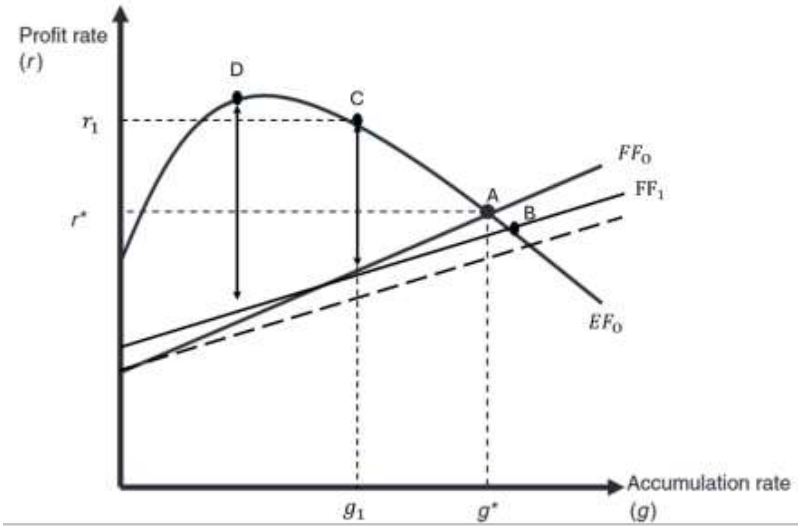
objectives, leading it to raise its target profit rate — to secure higher free cash flows— and reduce investment via the preference channel.

Figure 5 illustrates the effects of the preference channel. Initially operating at point A, the increase in the firm' external leverage ratio results in a flatter finance frontier (dashed curve), which also shifts upward to FF_1 due to rising debt-servicing costs[3]. However, instead of operating at point B—where it would maximize growth and stretch its financial capabilities to the limit— the firm moves along the expansion frontier and operates above the finance frontier, at a point between D, in which it would maximize free cash-flows, and point B. The firm targets now a higher profit rate that allows it to increase its free cash flows, which are indicated by the growing gap between the finance and expansion frontier. We assume, for the sake of simplicity, that the firm keeps these free cash flows in liquid form and that it does not earn interest on them.

Various factors may influence the firm's decision to operate at point D, C, or any other position between point D and B. One key determinant is the level of the external leverage ratio. As highlighted by CEPAL (2018: 151), beyond a certain leverage threshold, concerns over financial stability are likely to intensify, prompting the firm to operate farther from point B. That is to say, the higher the external debt-to-capital ratio of the firm, the higher the amount of free cash-flows the firm will want to maintain in liquid form for precautionary motives and debt-repayment. Additionally, firm size and the distinction between exporters and importers may play a decisive role. In this regard, larger and exporting firms are not only more likely to access foreign debt, but also better equipped to manage currency mismatches and access to derivative markets to hedge foreign exchange risk (Kaltenbrunner et al., 2024). As a result, a large and exporter firm may exhibit a stronger preference for growth, positioning it further from point D than a small, non-exporting firm, which faces greater exposure to financial risks. Furthermore, the level of development of domestic financial markets may also play a crucial role. In countries with more developed financial markets, firms have greater access to instruments for hedging currency risk than firms in less developed financial markets, which face limited and costlier hedging options. Therefore, the less developed the domestic financial market, the further away the company will be from point B.

[3] We could also assume that a higher external leverage ratio, and consequently higher debt-servicing costs, shifts the firm's finance frontier even further, positioning it above point A (as illustrated in Figure 3, point C). For simplicity, however, only one scenario is illustrated in Figure 5.

Figure 5: The Preference Channel

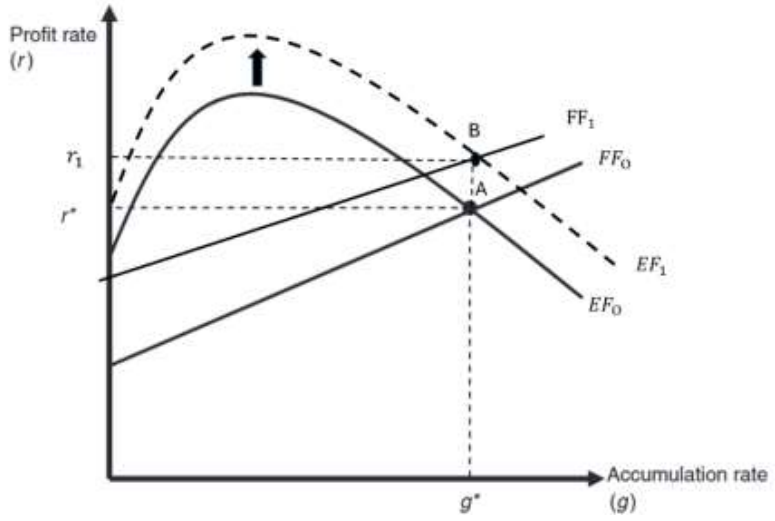


Source: own depiction based on Dallery (2009)

Finally, through the *distribution channel*, the firm with market power will attempt to raise its mark-ups in response to both the higher borrowing costs stemming from external debt and the cost of holding "unproductive resources"—namely, highly liquid and foreign currency-denominated financial assets that yield low returns (Schorr & Wainer, 2020; Bortz et al., 2018). In a context of exchange rate and interest rate volatility, combined with high uncertainty about future debt costs, rollover options and access to international financial markets, the firm tends to increase its margins of safety by expanding its liquidity holdings. These liquidity buffers, particularly those denominated in foreign currency, represent a cost for the firm; a cost that it is willing to incur to reduce the risk of financial distress. When these costs together with debt servicing costs become permanent, the firm may attempt to pass them on to prices through higher mark-ups. If financial liberalization is accompanied by institutional changes in the labour market or higher unemployment that reduced workers' bargaining power or by increased concentration in the product market that enhances market power, the firm will succeed in increasing its profit margin and shifting the burden of higher costs onto workers through price adjustments.

As depicted in Figure 6, the distributional channel is illustrated by an upward shift of the expansion frontier. A firm with market power increases its mark-ups and, consequently, its profit margins, thereby raising the maximum profit rate attainable for all rates of capital accumulation. When represented together with the finance channel, the distribution channel implies that now the firm can continue with the same growth strategy (g*) as in the pre-financialisation period, but with a higher target profit rate (r_1).

Figure 6: The Distribution Channel



Source: own depiction based on Dallery (2009)

To sum up, the three channels of influence of financialisation explored show that DEE firm's increasing involvement with international financial markets can lead to higher target profit rates and lower capital accumulation rates at the microeconomic level. By increasing its financial investments, targeting higher free cash flows, or raising mark-ups, the firm increases its profitability target as a protection from persistent risks. These risks stem from the external vulnerabilities of the economy, including exchange rate and interest rate volatility and unpredictable shifts in global financial conditions, that can affect future incomes and debt repayment capacity. Rather than reflecting shareholder pressures for higher profitability, a higher target profit rate of the DEE firm during the financialisation period reflects the increasing vulnerabilities and the 'costs' the firm must bear in exchange for greater security in a highly uncertain and unstable context.

4. The Micro-Macroeconomic Links of Financialisation

Post-Keynesians authors have integrated the microeconomic aspects of financialisation with their implications at the macroeconomic level, as these dynamics can ultimately affect the expansion and finance frontiers faced by firms (Hein & Van Treeck, 2010; Dallery, 2009; Dallery & Van Treeck, 2009). Hein & Van Treeck (2010) integrate the finance and preference channels of influence of financialisation into Kaleckian models of growth and distribution. By treating shareholder power as an exogenous variable, they examine how the equilibrium values of capital accumulation, capacity utilization, and the profit rate vary in the model when dividend payouts increase. Through this approach, the authors identify three distinct possible accumulation regimes —the 'contractive,' 'profit-without-investment,' and 'finance-led growth' regimes— which ultimately affect firms' finance and expansion frontier. Moreover, they examine the conditions that generate either micro-macro identities or paradoxes.

This section extends these analyses to the case of DEEs by examining the macroeconomic consequences of rising private foreign debt. Specifically, we integrate the finance and preference channels of influence of financialisation with the alternative macroeconomic regimes, as identified by Bortz et al. (2018), which emerge based on the effects of rising external debt on income distribution and aggregate demand. With this analysis, we aim to

uncover not only how the firm's finance and expansion frontiers are affected once the macroeconomic feedback of firm behaviour is taken into account, but also the conditions under which micro–macro identities or paradoxes arise.

4.1 Macroeconomic Implications of Rising External Debt in Foreign Currency

In Bortz et al. (2018), the effects of foreign indebtedness on income distribution and aggregate demand in DEEs are analysed through a Kaleckian model of growth and distribution for an open economy. The authors treat global risk perceptions as an exogenous variable that influences the level of foreign debt and analyse the case of laxer global risk perceptions leading to increased external debt, which in turn affects the rate of capacity utilization and the wage share —the two other endogenous variables in the model alongside foreign debt.

Foreign indebtedness affects aggregate demand mainly through its impact on investment and the current account. Investment is not only a function of capacity utilization and profitability but is also influenced by the level of foreign debt. On one side, a higher external debt-to-capital ratio raises debt servicing costs and increases firms' balance sheet exposure, negatively affecting investment. On the other side, rising foreign debt tends to appreciate the exchange rate and lower the cost of borrowing (in domestic currency) as well as the cost of imported inputs, thereby exerting a positive effect on investment. Regarding the current account, a more appreciated exchange rate can worsen the trade balance by reducing external price competitiveness and weakening foreign demand, depending on whether the Marshall–Lerner condition holds. However, it also makes debt servicing cheaper (measured in domestic currency) and thus reduces the current account deficit. The net effect of rising foreign indebtedness on both investment and the current account will therefore depend on the relative strength of these opposing forces.

In addition, foreign indebtedness affects income distribution by exerting pressure on mark-ups (Bortz et al., 2018). Higher levels of foreign debt push firms to pass on increased debt servicing costs to prices, thereby reducing the wage share. However, an appreciated exchange rate can ease cost pressures and intensify foreign competition in the tradable sector, which tends to lower prices and increase the wage share. Whether the overall effect on the wage share is positive or negative depends on the relative strength of these two opposing forces: the inflationary pressure from debt servicing costs versus the disinflationary effects of exchange rate appreciation.

Based on the different possible effects of an increase in foreign indebtedness in aggregate demand and income distribution, Bortz et al. (2018) identify alternative finance (debt-led vs. debt-burdened) and distributional (debt-service-led vs. exchange-rate-driven) regimes. The financial regimes are determined by the effect of foreign debt on economic activity. In a debt-burdened regime, an increase in foreign debt negatively affects the rate of capacity utilization at the macroeconomic level. Investment declines, indicating that the negative balance sheet effects outweigh any positive impact on investment from exchange rate appreciation, but also external demand decreases due to the deterioration of external competitiveness. On the contrary, if the regime is debt-led, an increase in foreign debt boosts economic activity. In this case, the positive impact of an appreciated exchange rate on investment, by lowering the costs of borrowing and imported inputs and capital goods, outweighs the negative effects of a higher debt-servicing on firms' investment and the adverse impact of a deteriorated price external competitiveness on foreign demand. Distributional regimes are determined by the effect of foreign debt on income distribution. In a debt-service-driven regime, firms are able to

raise their mark-ups and pass debt-servicing costs onto prices. Consequently, real wages decline and the profit share goes up. In contrast, under an exchange-rate-driven regime, rising foreign debt can positively affect the wage share by reducing inflation as the exchange rate appreciates.

Moreover, the authors also find three combinations of these regimes that are conducive to stability: i) the normal case, which combines a debt-service-driven regime with a debt-burdened financial regime; ii) the puzzling case, characterized by an exchange rate-driven and debt-led regime; and iii) the conciliating-debt case, which combines an exchange rate-driven distribution regime with a debt-burdened financial regime. All these regime combinations are compatible with a wage-led and profit-led demand regime. Table 1 summarizes the stable regime combinations and respective macroeconomic regimes.

Table 1: Alternative Macroeconomic Regime Combinations

Stable regime combinations	Regimes	Definition
Normal regime	Debt-service driven	The profit share increases with rising external debt
	Debt-burdened	Aggregate demand declines with rising external debt
Conciliated-debt regime	Exchange-rate driven	The profit share declines with rising external debt
	Debt-burdened	Aggregate demand declines with rising external debt
Puzzling regime	Exchange-rate driven	The profit share declines with rising external debt
	Debt-led	Aggregate demand increases with rising external debt

Source: author's elaboration based on Bortz et al. (2018)

The first regime combination is referred to as 'normal' because it describes the commonly observed implications of foreign indebtedness for DEEs found in the literature, in which a rise in external debt leaves the economy highly vulnerable to financial crises with detrimental consequences for economic growth and income distribution (Reinhart & Reinhart; 2009; Cimoli et al., 2016; Kohler, 2019; Bortz et al., 2018; Abraham et al., 2020). On the contrary, positive effects of foreign indebtedness on medium- and long-run growth, as expected in the puzzling case, are less likely to occur according to these authors.

Bortz et al. (2018) argue that the puzzling regime could only be associated with the very initial expansionary phase of a global financial cycle, during which favourable external conditions stimulate cross-border credit growth, and the resulting appreciated exchange rate positively influences economic activity and is used as a tool to reduce inflation. Nevertheless, the nature of this external borrowing—often short-term and denominated in foreign currency— increases external vulnerabilities of the whole economy. In this context, the negative effects of debt servicing on firms' investment decisions and the current account eventually outweigh the initial benefits of a stronger domestic currency. The economy then shifts into a conciliated-debt regime, where exchange rate appreciation is insufficient to sustain aggregate demand, primarily because of its negative impact on foreign demand and the central role played by the current account in driving aggregate demand in DEEs. In the medium run, the economy becomes trapped in the normal regime, as growing external imbalances render it highly

vulnerable to shifts in international financial conditions, potentially triggering capital flow reversals, currency depreciation, financial crises, and a further decline in the growth rate.

4.2 The Micro- and Macroeconomics Effects of Financialisation

To investigating the micro-macro links of financialisation, we integrate the finance and preference transmission channels with the alternative macroeconomic regime combinations identified by Bortz et al. (2018). This enable us to identify both how the macroeconomic implications of financialisation affect the finance and expansion frontiers of the firm and, consequently, investment decisions and target profit rates, and the conditions under which micro–macro identities or fallacies are generated.

The macroeconomic effects of financialisation influence the firm through their impact on both the expansion and finance frontier. As shown in equation (3), which represents the firm's expansion frontier, the implications of increasing private foreign debt for aggregate demand and income distribution affect the maximum rate of profit a firm can achieve, as they alter the parameter u and π, which represent the rate of capacity utilization and the profit share, respectively. For instance, if rising private external debt lead to a decline in aggregate demand, the firm will face a less favourable expansion frontier. Since the rate of capacity utilization goes down, the firm will be able to obtain a lower rate of profit for a given rate of growth and its profitability target will not be realized. A similar outcome occurs if the wage share rises with increasing private foreign debt due to the stronger disinflationary effect of an appreciated exchange rate, as predicted by the puzzling regime. In this case, the profit share of the economy falls, firms cannot pass rising costs onto workers, and profit margins are compressed. Again, once we consider the macroeconomic feedback of firm behaviour, we find that the firm's target profit rate is not realised, as its expansion frontier shifts downward.

Moreover, as argued in Section 3, a persistent feature of financialisation in DEEs is portfolio dollarisation. Although Bortz et al. (2018)' model focuses on the macroeconomic implications of rising foreign debt triggered by lax global risk perceptions, it can be argued that, at the macroeconomic level, increased demand for hard currency can depreciate the domestic currency, thereby raising the burden of foreign-currency-denominated debt. Exchange rate depreciation and the resulting higher debt-servicing costs tighten finance constraints of the firm, as indicated by the term $[(i_B^* + \rho)l^* e]$ of the finance frontier (equation (5)). Consequently, the firm will require a higher profit rate than initially target to finance any given capital accumulation rate.

4.2.1 The Normal Regime and the Finance and Preference Channels

Figures 7 and 8 illustrate the micro–macroeconomic links of rising foreign indebtedness when financialisation influences the firm through the finance and preference channel, respectively, and the economy is in the normal regime, i.e. aggregate demand and the wage share declines with an increase in private foreign debt.

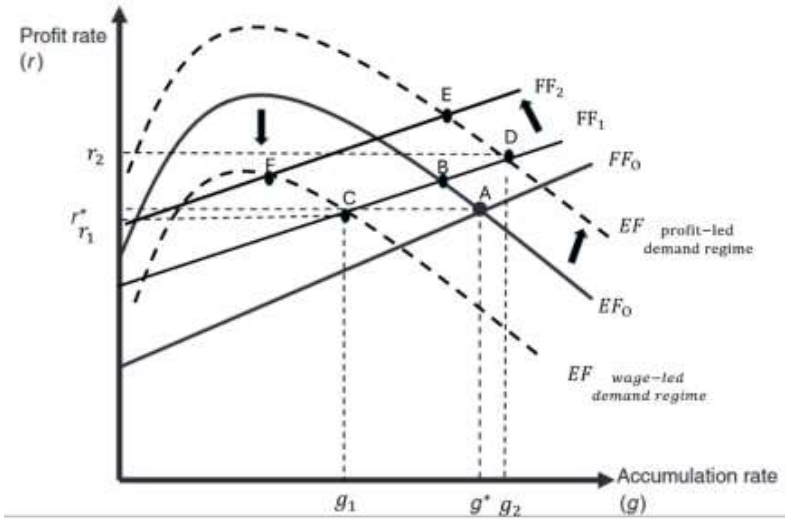
As shown in equation 3 of the expansion frontier, a lower rate of capacity utilization reduces the maximum rate of profit a firm can achieve for any given rate of growth. Conversely, a higher profit share has the opposite effect, as firms' profit margins increase because they are able to pass on increasing borrowing costs to prices through higher mark-ups. The first effect leads to a downward shift of the expansion frontier ($\downarrow u$), while the second effect increases the expansion frontier ($\uparrow \pi$), ultimately shifting the frontier back to its original position (EF_0). The

final outcome depends on the economy's demand regime: in a wage-led economy, the decline in the wage share further decreases the rate of capacity utilization, resulting in a downward shift of the expansion frontier, while in a in a profit-led economy, the expansion frontier shifts upward again due to the higher rate of capacity utilization derived from an increased in the profit share.

Figure 7 illustrates these micro-macro links when financialisation influences the firm through the finance channel. Points A and B on the graph represent the pre-financialisation period and the effect of financialisation through the finance channel, respectively (this applies to all graphs illustrating the finance channel). In a wage-led demand regime, the firm ends up operating at point C, with a lower rate of profit and accumulation rate (r_1 and g_1) than initially targeted (point B). A paradox of profits arises: at the microeconomic level, the rising foreign debt induces the firm to reduce investment and increase the target profit rate but, at the macroeconomic level, rising private foreign debt reduces aggregate demand to such an extent that the realized rate of profit decreases. That is, firms face a less favourable expansion frontier, allowing them to obtain lower rates of profits than initially expected for all rates of growth.

In a profit-led economy, in contrast, the firm operates at point D, with a more favourable expansion frontier, resulting in a higher profit rate and accumulation rate (r_2 and g_2). This case reveals a paradox of growth: the firm reduce growth expectations at the microeconomic level (point B) but at the macroeconomic level the higher profit share in the economy, as a result of a rising private foreign debt, stimulates aggregate demand and the firm increases its rate of capacity utilization, leading to a higher accumulation rate.

Figure 7: The Normal Regime and the Finance Channel



Source: own depiction based on Dallery (2009)

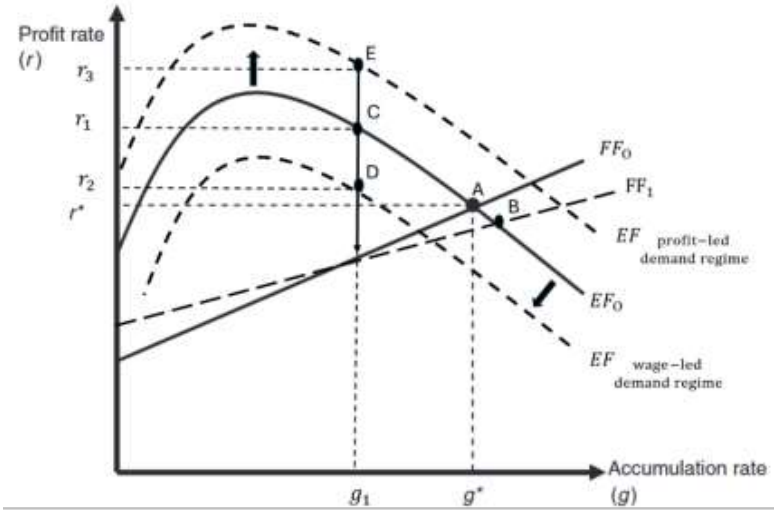
Moreover, Figure 7 illustrates the case in which the increasing cash holdings and financial assets are denominated in foreign currency. In this case, the high demand for hard currency tends to depreciate the exchange rate and, as liabilities are denominated in foreign currency, the burden of the debt will rise for all firms. Higher external borrowing costs, reflected in the term $[(i_B^* + \rho)l^* e]$, will further tighten the firm's finance frontier, shifting it upward to FF_2. This induces the firm to operate at point E or F, if the economy is profit-led or wage-led, respectively.

In both cases, the firm's target profit rate increases, even compared to a situation without portfolio dollarization, due to the more restricted financing constraints. There is therefore a micro–macro identity with respect to growth and profit rates: both at the micro and macroeconomic level, the accumulation rate falls while the profit rate increases. Nonetheless, financial risk may intensify as debt servicing costs rise and investment declines, undermining the firm's capacity to meet debt obligations. Therefore, a paradox of risk emerges: at the microeconomic level, the firm dollarizes its asset portfolios to reduce currency mismatch and reduce the risk of insolvency but, at the macroeconomic level, this behavior contributes to greater external sector imbalances and exchange rate depreciation, which increases the burden of the debt denominated in foreign currency, ultimately heightening firms' overall financial exposure.

The combination of a normal regime with the preference channel is depicted in Figure 8. It illustrates a case in which rising foreign debt leads the firm to operate at point C at the microeconomic level, to generate free cash flows equal to the vertical distance between point C and FF_1. If the demand regime is profit-led, firms will face a more favourable frontier as the profit share increases in the normal regime. The firm will then operate at point E, with a higher profit rate and greater free cash flows than initially targeted. There is therefore a micro-macro identity, as expectations of the firm of a higher profit rate and lower accumulation rate are realized at the macroeconomic level. This occurs because, under the preference channel, the firm does not aim to maximize growth or stretch their financial capacity to the limit. Rather than operating at the intersection of the new expansion frontier and the initial finance frontier (FF_1), which would enable a higher growth rate, the firm prefers to maintain a buffer of free cash flows (point E). Thus, the additional profits generated by a more favourable expansion frontier are not directed toward productive investment but are instead held as liquid assets for precautionary purposes.

In contrast, in a wage-led economy, the outcome is a downward shift of the expansion frontier, and the firm will operate at point D, with a lower profit rate and free cash flows than initially targeted. This case not only suffers from a paradox of profits but also from a paradox of liquidity, i.e. at the microeconomic level, the firm reduces investment and raises its target profit rate to secure higher free cash flows as a buffer against economic uncertainty and to meet debt obligations. However, at the macroeconomic level, the decline in aggregate demand—driven by a combination of high debt burdens and a wage-led regime—ultimately reduces the free cash flows the firm is able to retain.

Figure 8: The Normal Regime and the Preference Channel



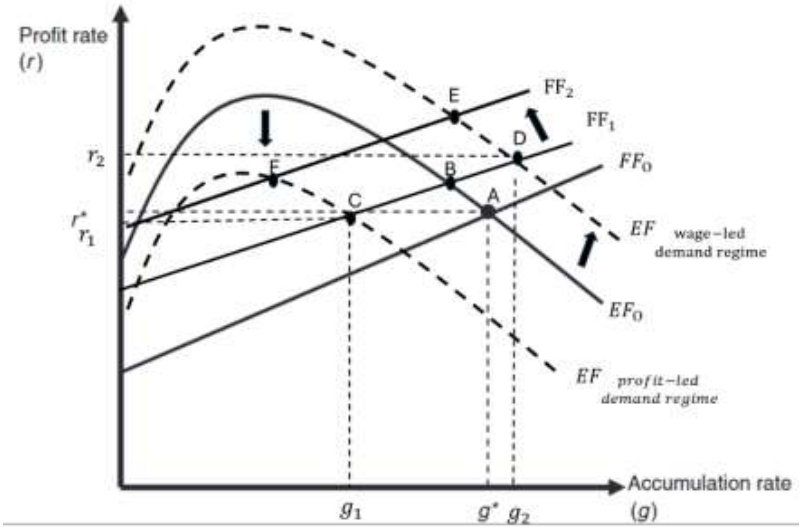
Source: own depiction based on Dallery (2009)

4.2.2 The Puzzling Regime and the Finance and Preference Channels

In the puzzling regime, an increase in foreign debt has a positive effect on both the wage share and economic activity. These entails two counteracting effects on the expansion frontier of the firm: an increase because the rate of capacity utilization is higher ($\uparrow u$) and a decline of the expansion frontier, as the profit share decreases ($\downarrow \pi$). As in the normal regime, the final effect will depend on whether the economy is wage-led or profit-led. In the first case, economic activity will further rise due to the higher wage share, meaning the expansion frontier will shift upwards. In a profit-led economy, on the contrary, economic activity will be negatively affected by the higher wage share, and the firm will face a less favourable expansion frontier, which finally shift downwards.

Figure 9 illustrates the micro-macro links of financialisation when the economy is in a puzzling regime and the finance channel is at play. In this case, the firm will operate at point D if the demand regime is wage-led, with a higher profit rate and accumulation rate, or at point C, with a lower rate of profit and accumulation rate, if the demand regime is profit-led.

Figure 9: The Puzzling Regime and the Finance Channel

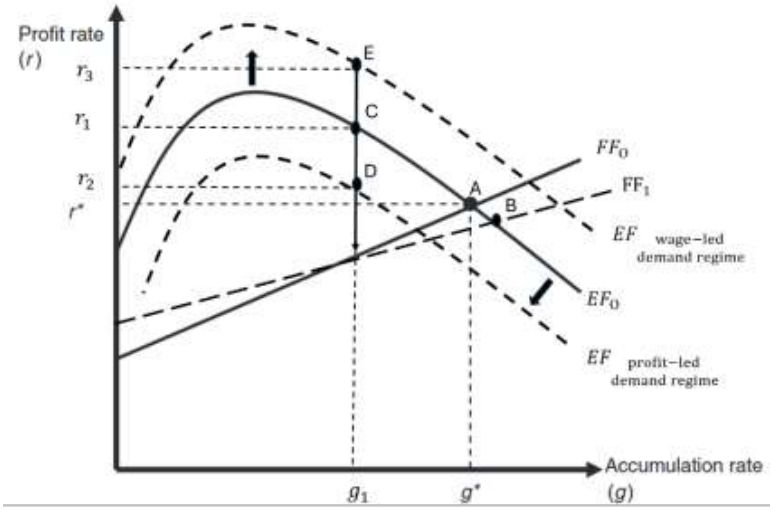


Source: own depiction based on Dallery (2009)

The same micro–macro paradoxes identified in the normal regime also arise in the puzzling regime, though with reversed implications for the wage-led and profit-led demand regime. Specifically, the paradox of growth appears in a wage-led economy, while the paradox of profits emerges in a profit-led economy—contrary to what is observed in the normal regime. Furthermore, as in the normal case, dollarization of firms' portfolios tends to depreciate the exchange rate, increasing debt-servicing costs and shifting the finance frontier further leftward to FF_2. In a wage-led regime, the firm will operate at point E, facing a higher target profit rate and a lower accumulation rate compared to the scenario without portfolio dollarization (point D). In a profit-led economy, by contrast, the firm will operate at point F. In both cases, there is a micro-macro identity in terms of growth and profit rates. However, as in the normal case, a paradox of risk might emerge, as the individual behaviour of a firm that dollarize its portfolio to hedge foreign exchange exposure and reduce financial risk, might lead to more risk overall, by exerting pressure in the exchange rate and, thus, in the burden of the external debt.

Furthermore, Figure 10 illustrates the case in which the economy is in a puzzling regime and financialisation influences the firm through the preference channel. Once again, the results mirror those of the normal case but with opposite effects depending on whether the economy is wage-led or profit-led. In a wage-led economy, as the expansion frontier shifts upward, the firm is able to generate higher free cash flows (point E), even more than initially anticipated. There is again a micro-macro identity in terms of growth rate and profit rates. In contrast, a profit-led economy might suffer from a paradox of profits and a paradox of liquidity. In this case, the expansion frontier shifts downward due to a lower rate of capacity utilization, and the firm will obtain lower profit rates and less free-cash flow than initially targeted (point D vs C).

Figure 10: The Puzzling Regime and the Preference Channel



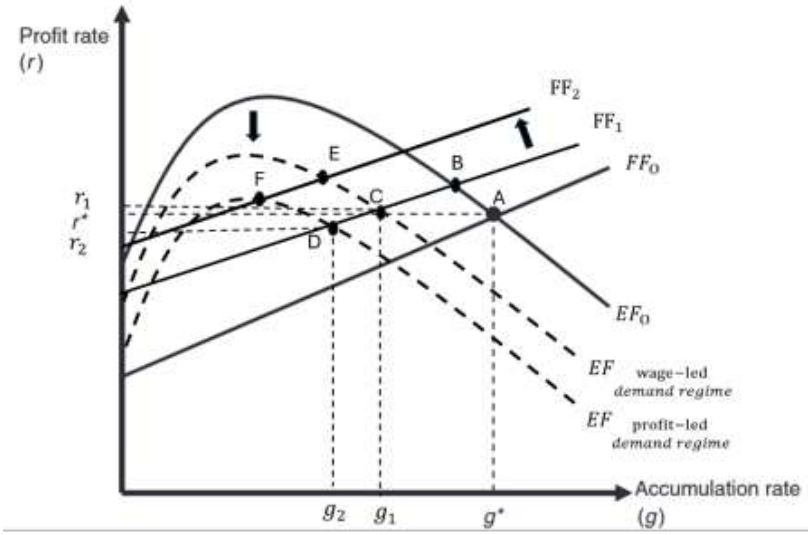
Source: own depiction based on Dallery (2009)

4.2.3 The Conciliated-Debt Regime and the Finance and Preference Channels

The conciliated-debt regime combines an exchange rate-driven distribution regime with a debt-burdened financial regime—that is, both the profit share and aggregate demand decline as foreign debt rises. The firm's expansion frontier shifts downward as the simultaneous drop in the profit share and the rate of capacity utilization reduces the maximum profit rate it can attain for any given growth rate. Although this effect could be partially mitigated if the demand regime is wage-led, the overall outcome is likely to be a decline in the expansion frontier of the firm, a contraction that would be even more pronounced under a profit-led demand regime.

Figure 11 illustrates these dynamics when the finance channel operates. The downward shift of the expansion frontier leads the firm to operate in point C or D, if the demand regime is wage-led or profit-led, respectively. Both cases suffer from a paradox of profits, as the adverse effects of increasing foreign debt on economic activity led to a lower profit rate than the one initially targeted by the firm. Moreover, if there is a tendency toward portfolio dollarisation, the resulting tightening of the finance frontier, as a consequence of a depreciation of the domestic currency, pushes the firm to target an even higher profit rate while further constraining growth. In this case, the firm operates at point E if demand regime is wage-led and at point F if it is profit-led. As in the normal and puzzling regime, in the conciliated-debt regime there is a micro-macro identity in terms of growth and profit rates and a paradox of risk when there is a stronger tendency towards portfolio dollarisation by firms.

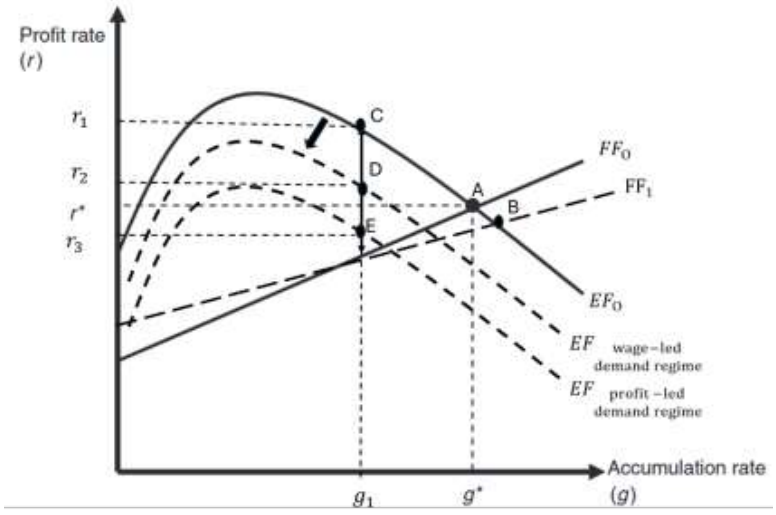
Figure 11: The Conciliated-Debt Regime and the Finance Channel



Source: own depiction based on Dallery (2009)

Finally, Figure 12 illustrates the preference channel of influence of financialisation under the conciliated-debt regime. The negative impact of foreign indebtedness on economic activity limits the firm's ability to generate the targeted level of free cash flows, giving rise to the paradoxes of profits and liquidity. This outcome occurs under both profit-led and wage-led demand regimes, though free cash flows are even more constrained in a profit-led economy due to the sharper contraction in economic activity. In both cases, it remains below the level initially targeted by the firm at point C.

Figure 12: The Conciliated-Debt Regime and the Preference Channel



Source: own depiction based on Dallery (2009)

4.3 Summary

The table below summarizes the findings presented in the previous section concerning the comparison between the micro- and macroeconomic impacts of financialisation.

Table 2: Micro- and Macroeconomic Effects of Financialisation Compared

Financialization's channels of influence/ Regime combinations		Finance channel	Finance channel with portfolio dollarisation	Preference channel
Normal regime	Wage led	Paradox of profits	Micro-macro identity Paradox of risk	Paradox of profits Paradox of liquidity
	Profit-led	Paradox of growth	Micro-macro identity Paradox of risk	Micro-macro identity
Conciliated-debt regime	Wage-led	Paradox of profits	Micro-macro identity Paradox of risk	Paradox of profits Paradox of liquidity
	Profit-led	Paradox of profits	Micro-macro identity Paradox of risk	Paradox of profits Paradox of liquidity
Puzzling regime	Wage-led	Paradox of growth	Micro-macro identity Paradox of risk	Micro-macro identity
	Profit-led	Paradox of profits	Micro-macro identity Paradox of risk	Paradox of profits Paradox of liquidity

Source: own depiction

Across all macroeconomic regime combinations, a strict micro–macro identity emerges when financialisation influences the firm through the finance channel and there is a strong tendency toward portfolio dollarisation. In such cases, financialisation may induce firms to increase their target profit rates by further tightening financial constraints and amplifying overall financial exposure and risk. Moreover, a paradox of risk may arise as the firm's attempt to reduce currency mismatches and financial risks by dollarizing portfolios can generate adverse macroeconomic effects, including exchange rate depreciation, which increases the burden of external debt and may ultimately heighten firms' financial exposure.

A strict micro–macro identity also holds when the preference channel operates and the economy is characterized either by a normal regime with a profit-led demand regime or a puzzling regime with a wage-led demand regime. In both cases, higher target profit rates reflect more favourable expansion frontiers faced by firms as a consequence of the rising private foreign debt. In the first case, this occurs primarily due to a higher profit share, as firms are able to increase their mark-ups and pass higher debt servicing costs onto prices, which in turn positively affects the rate of capacity utilization because the demand regime is profit-led. In the second case, the expansion frontier improves due to the positive impact of external debt on aggregate demand, further supported by a higher wage share in a wage-led economy. However, investment do not increase because, under the preference channel, the firm does not stretch its financial capabilities to the limit. Rather than prioritizing growth, they are more concerned on financial stability, which makes them operate with high levels of free-cash flows. In contrast, under the finance channel, a paradox of growth emerges across the same regime combinations. Here, firms are growth-oriented and operate at the intersection of their finance and expansion frontiers, fully leveraging their financial capacity and benefiting from a more favourable expansion frontier. As a result, both the profit rate and the accumulation rate increase.

Furthermore, a paradox of profits arises when financialisation influences the firm through both the preference and finance channels in a conciliated-debt regime, a normal regime with a wage-led demand regime and in a puzzling regime with a profit-led demand regime. In these cases, the negative effects of rising private foreign debt on economic activity reduce the rate

of capacity utilization, thereby depressing the maximum profit rate a firm can achieve. Moreover, under the preference channel, a paradox of liquidity may emerge, as declining aggregate demand and investment reduce the level of free cash flows that firms are able to retain, falling short of their initially targets.

5. Conclusions

In the preceding analysis, we sought to identify the main determinants of firms' target profit rates in DEEs and to assess to what extent financialisation has affected these rates, considering both the microeconomic and macroeconomic effects of rising firms' foreign indebtedness.

By extending the post-Keynesian model of the firm to an open economy context, we found that hierarchies within the international monetary and financial system tighten firms' financial constraints, leading DEE firms to require higher profit rates than their counterparts in AEs. These elevated profit rates reflect several structural factors that translate into higher costs of capital and target liquidity ratios. Specifically, these include elevated borrowing costs, the need to maintain larger safety margins due to increased financial risks, a stronger reliance on internal funding for investment—given that external debt is riskier and domestic financial markets are less developed—and heightened exposure to exchange rate and interest rate volatility, alongside elevated country risk premiums.

We introduced financialisation into the model by redefining the mechanisms through which a higher external debt-to-capital ratio, driven by lax global risk perceptions, shapes firms' investment decisions and target profit rates. At the microeconomic level, financialisation might increase the firm's target profit rate and reduce capital accumulation via the finance, preference and distribution channel. Through the finance channel, the firm faces rising debt-servicing costs and allocates a higher portion of their external debt away from productive investment toward the acquisition of new financial assets, including foreign-currency-denominated assets, to protect themselves against changing economic conditions and financial risks. Via the preference channel, the firm's commitment to growth weakens as it becomes more concerned with financial instability when their leverage ratios increased. Consequently, it becomes more profit-oriented to secure high levels of free cash flows that allows the firm to meet its financial obligations and increase its liquidity holdings as a protection against financial risks. Finally, through the distribution channel, the firm with market power raises its mark-ups in response to both the higher borrowing costs stemming from external debt and the cost of holding "unproductive resources"—namely, highly liquid and foreign currency-denominated financial assets.

We established the link between the microeconomic effects of financialisation on the target profit rate and capital accumulation with its macroeconomic effects on aggregate demand and the profit share. Our findings show that across all macroeconomic regimes, a micro–macro identity emerges when the finance channel with portfolio dollarisation is at play. By contrast, a paradox of profits arises when financialisation influences the firm through the preference and finance channels in a conciliated-debt regime, a normal regime with a wage-led demand regime and in a puzzling regime with a profit-led demand regime. Conversely, a paradox of growth occurs under a normal regime with a profit-led demand regime or a puzzling regime with a wage-led demand regime.

The paradoxes of risk and liquidity, that emerge under various macroeconomic regimes when the finance channel with portfolio dollarisation and the preference channel are at play, respectively, are particularly significant, as they highlight the potential negative macroeconomic consequences of firm behaviour for financial stability. In this sense, while the individual firm attempt to protect itself from financial risks and liquidity shortages by dollarizing portfolios or hoarding liquidity, when these strategies are adopted collectively the macroeconomic outcome can be greater financial fragility. Specifically, higher demand for hard currency leads to domestic currency depreciation, which raises foreign debt servicing costs and increases financial exposure. At the same time, liquidity hoarding, combined with reduced investment and weaker aggregate demand, diminishes the free cash flows that firms ultimately retain for debt repayment and precautionary motives.

Our analysis shows that across the various macroeconomic regimes considered, increasing private foreign indebtedness generally leads to higher target profit rates. This holds true even under the normal regime, which reflect the commonly observed implications of rising foreign debt in the empirical literature—namely, its negative impact on economic activity and the wage share. In the normal regime, financialisation might lead to higher target profit rates under the finance channel with portfolio dollarization, irrespective if the demand regime is wage-led or profit led, or under the preference channel if the demand regime is profit-led. In the first case, the higher profitability targets reflect tighter financing constraints and heightened financial risk that arises as debt servicing costs rise in a context of exchange rate depreciation and decline investment. Moreover, firms might respond by setting even higher margins of safety, through increased liquidity targets and portfolio dollarisation, which in turn can push up even further their target profit rates. In the second case —that is, a normal regime combined with a profit-led economy and under the preference channel— higher target profit rates reflect mainly the distributional effects of financialisation. The firm faces a more favourable expansion frontier not only because the profit share increases, as they are able to pass onto prices the rising costs derived from external debt, but also because the higher profit share stimulates aggregate demand in a profit-led demand regime, increasing the rate of capacity utilization. Consequently, the firm can target higher profit rates for all rates of capital accumulation.

Furthermore, financialisation may lead to lower target profit rates under both the finance and preference channels in the normal regime with a wage-led demand regime, provided there is no portfolio dollarisation. In this case, the negative effects of rising private foreign debt on economic activity and the wage share are sufficiently strong that firms experience a contraction in their expansion frontier, and thus a decline in the maximum attainable profit rate. However, it is also possible that, in this context of adverse macroeconomic conditions, the firm will demand a higher profit rate to compensate for the heightened risks associated with productive investments.

This paper has many implications for further research. First, it could be examined whether, and to what extent, firms adjust their target profit rate in response to changes in the actual profit rate. In particular, it would be interesting to investigate whether permanent effects of financialisation on the profit rate influence the profit rate targeted by the firm. Second, regarding the microeconomic effects of financialisation, one question to be asked is how managers allocate the increasing free cash flows that aim under the preference channel. In our analysis, we assumed that these are held in liquid form and do not generate interest. However, managers may instead earn interest on cash holdings, use them to repay debt, or distribute them to shareholders—all of which would affect the finance frontier and merit

consideration. Third, with respect to the macroeconomic effects of the firm behaviour, this paper focused on the impact of rising private external debt on aggregate demand and the profit share. Future research could instead examine the effects of reduced investment by firms, triggered by financialisation, on aggregate demand. Depending on the relative importance and dynamics of consumption, government spending, and exports, the overall impact could be either positive or negative, with corresponding consequences for the expansion frontier of the firm. Finally, the theory of the firm presented here should be complemented with empirical research on the determination of firms' target profit rates. While this issue has been examined extensively for firms in AEs, there is a lack of studies addressing how these rates are determined and how they have evolved in DEEs. Such research would make it possible to assess whether the determinants highlighted in our model align with firms' actual practices or whether additional factors should be incorporated.

References

Abraham, F., Cortina Lorente, J.J., & Schmukler, S.L. (2020). Growth of global corporate debt: main facts and policy challenges. World Bank Policy Research Working Paper, 9394.

Alami, I., Alves, C., Bonizzi, B., Kaltenbrunner, A., Koddenbrock, K., Kvangraven, I., & Powell, J. (2023). International financial subordination: A critical research agenda. Review of International Political Economy, 30(4), 1360–1386. https://doi.org/10.1080/09692290.2022.2098359

Allami, C. & Cibils, A. (2024). Corporaciones, Deuda Externa Privada y Restricción Externa en Argentina, 2015-2019. In Restructuración del Capitalismo en la Periferia: El Papel de la Inversión Extranjera y de las Grandes Coorporaciones by Levy Orlik, N., Bustamante J. & Sanchez, P., Ed Universidad Nacional Autónoma de México

Andrade, R. P., & Prates, D. M. (2013). Exchange rate dynamics in a peripheral monetary economy. Journal of Post Keynesian Economics, 35(3), 399–416. https://doi.org/10.2753/PKE0160-3477350304

Blecker, R. (2011). "Open Economy Models of Distribution and Growth." In A Modern Guide to Keynesian Macroeconomics and Economic Policies, edited by E. Hein and E. Stockhammer, 215–239. Cheltenham: Edward Elgar.

Boyer, R. (2000) 'Is a Finance-led Growth Regime a Viable Alternative to Fordism? A Preliminary Analysis', Economy and Society 29(1): 111–45.

Bortz, P. G., & Kaltenbrunner, A. (2018). The International Dimension of Financialization in Developing and Emerging Economies. Development and Change, 49(2), 375–393. https://doi.org/10.1111/dech.12371

Bortz, P. G. (2018). Flujos de Capital y Endeudamiento Externo: Algunas Reflexiones para América Latina. In M. Abeles, E. Perez Caldentey, S. Valdecantos, M. Abeles, E. Perez 34 Caldentey, & S. Valdecantos (Edits.), Estudios sobre Financierización en América Latina (p. 295-322). Santiago de Chile: CEPAL.

Bortz, P.G., Michelena, G. & Toledo, F. (2018). Foreign debt, conflicting claims and income policies in a Kaleckian model of growth and distribution, Journal of Globalization and Development, 9 (1), 1–22.

Bruno, V. and Shin, H. S. (2017) 'Global Dollar Credit and Carry Trades: A Firm-Level Analysis', The Review of Financial Studies, 30, 703–749. https://doi.org/10.1093/rfs/hhw099.

CEPAL (2018). Estudio Económico de América Latina y el Caribe 2018: Evolución de la inversión en América Latina y el Caribe: hechos estilizados, determinantes y desafíos de política. UN, Santiago.

CEPAL (2019). Estudio Económico de América Latina y el Caribe 2019: El nuevo contexto financiero mundial: efectos y mecanismos de transmisión en la región. UN, Santiago.

Cimoli, M., Ocampo, J.M. & Porcile, G. (2016). Financial Cycles and the Macroeconomic Dynamics of Developing Economies. Working Paper No 29/2016, ISGrowth Project

Crotty, J. 1992. Neoclassical and Keynesian approaches to the theory of investment. Journal of Post Keynesian Economics 14 (4): 483-496.

Dallery, T. (2009). Post-Keynesian Theories of the Firm under Financialization. Review of Radical Political Economics, 41(4), 492–515. https://doi.org/10.1177/0486613409341371

Dallery, T. & Van Treeck, T. (2009). Firms' Objectives, Macroeconomic Growth Regimes and Finance. EKONOMIAZ, Revista vasca de Economía, vol. 72(03), pages 140-161.

De Paula, L., Fritz, B., & Magalhães Prates, D. (2017). Keynes at the Periphery: Currency Hierarchy and Challenges for Economic Policies in Emerging Economies. Journal of Post Keynesian Economics, 40(3), 1-20.

De Paula, L. F., Fritz, B., & Prates, D. (2024). The metamorphosis of external vulnerability from 'original sin' to 'original sin redux': Currency hierarchy and financial globalization in emerging economies. Review of International Political Economy, 1–28. https://doi.org/10.1080/09692290.2024.2370340

Edwards, H & Lane, K. (2020). Why Are Investment Hurdle Rates So Sticky? Reserve Bank of Australia.

Eichengreen, B., Hausmann, R., & Panizza, U. (2023). Yet it Endures: The Persistence of Original Sin. Open Economies Review, (34),1–42.

Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. Brookings Papers on Economic Activity, 1, 141–206. https://doi.org/10.2307/2534426

Feiner Solís, S. (2021). The effectiveness and risks of loose monetary policy under financialisation. Journal of Post Keynesian Economics, 47(3), 508–541. https://doi.org/10.1080/01603477.2023.2178461.

Fernandez, R.; Bortz, P.; Zeolla, N. (2018). The politics of quantitative easing: A critical assessment of the harmful impact of European monetary policy on developing countries. SOMO, DOI:10.13140/RG.2.2.32421.40163

Gormsen, N. J., & Huber, K. (2024). Corporate Discount Rates. National Bureau of Economic Research NBER Working Paper Series, WP 31329

Hardy, B. and Saffie, F. (2019) From Carry Trades to Trade Credit: Financial Intermediation by Non-Financial Corporations, BIS Working Papers, 773. Basel, Switzerland, Bank of International Settlements. https://www.bis.org/publ/work773.htm.

Hein, E. (2023). Varieties of demand and growth regimes post-Keynesian foundations. European Journal of Economics and Economic Policies: Intervention, Vol. 20 No. 3, 2023, pp. 410–443

Hein, E. & Van Treeck, T. (2010). Financialisation and Rising Shareholder Power in Kaleckian/Post-Kaleckian Models of Distribution and Growth, Review of Political Economy, 22:2, 205-233, DOI: 10.1080/09538251003665628.

JP Morgan. (2016). It is time to reassess your hurdle rates. https://ejvanalytics.com/wp-content/uploads/2018/08/2016-JPMorgan-Reassess.pdf

Kaltenbrunner, A. (2015). A Post-Keynesian Framework of Exchange Rate Determination: A Minskyan Approach. Journal of Post Keynesian Economics 38: 426–448

Kaltenbrunner, A., Karaçimen, E., & Rabinovich, J. (2024). Assessing financialization under international financial subordination: A mixed-methods study of Brazilian and Turkish non-financial corporations. Socio-Economic Review, mwae037. https://doi.org/10.1093/ser/mwae037

Kaltenbrunner, A., & Painceira, J. P. (2015). Developing countries' changing nature of financial integration and new forms of external vulnerability: The Brazilian experience. Cambridge Journal of Economics, 39(5), 1281–1306. https://doi.org/10.1093/cje/beu038

Kalecki, M. (1937), 'The principle of increasing risk', Economica, 4 (76), November, 441–7.

Kohler, K. (2019). Exchange rate dynamics, balance sheet effects, and capital flows. A Minskyan model of emerging market boom-bust cycles. Structural Change and Economic Dynamics 51: 270-283.

Lampa, R., Tavasci, D., & Ventimiglia, L. (2022). External finance, subordinated financialisation: A reflection on Argentina's currency flights in the last three decades. Cambridge Journal of Economics, 46(5), 977–1003. https://doi.org/10.1093/cje/beac020

Lavoie, M. (2022). Theory of the Firm. In Post-Keynesian Economics: New Foundations (p. 128-192) Edward Elgar Publishing. https://doi.org/10.4337/9781839109621

Orhangazi, O. (2008) 'Financialization and Capital Accumulation in the Non-financial Corporate Sector: A Theoretical and Empirical Investigation of the US Economy, 1973–2004', Cambridge Journal of Economics 32(6): 863–86.

Perez Artica, R. P., Brufman, L., & Saguí, N. (2019). Why do Latin American firms hold so much more cash than they used to? Revista Contabilidade & Finanças, 30(79), 73–90. https://doi.org/10.1590/1808-057x201805660

Pesce, M. A. & Feldman, G. 2023. Monetary policy challenges over two decades: a view from Argentina, BIS Papers chapters, in: Bank for International Settlements (ed.), Central banking in the Americas: Lessons from two decades, vol 127: 21-39, Bank for International Settlements.

Rabinovich, J., & Pérez Artica, R. (2023). Cash holdings and corporate financialization: Evidence from listed Latin American firms. Competition & Change, 27(3–4), 635–655. https://doi.org/10.1177/10245294221117275

Rabinovich, J. (2019), 'The Financialization of the nonfinancial corporation: a critique to the financial turn of accumulation hypothesis', Metroeconomica, 70 (4), November, 738–75.

Reinhart, C., and V. Reinhart. (2009). Capital Flow Bonanzas: An Encompassing View of the Past and Present, in NBER International Seminar on Macroeconomics 2008, edited by Frankel, J., & Pissarides, C., 9–62. Ithaca: University of Chicago Press

Rey, H. (2013). Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence. Proceedings of the Economic Symposium of the Federal Reserve Bank of Kansas City, 285–333. Jackson Hole, WY

Schorr, M. & Wainer, A. (2020). Financiarización y dinámica inversora de las grandes empresas en la Argentina durante el ciclo de gobiernos kirchneristas; Realidad Económica, n° 332, 39-72.

Sharpe, S. A., & Suarez, G. A. (2021). Why Isn't Business Investment More Sensitive to Interest Rates? Evidence from Surveys. Management Science, 67(2), 720–741. https://doi.org/10.1287/mnsc.2019.3473

Stockhammer, E. (2004) 'Financialisation and the Slowdown of Accumulation', Cambridge Journal of Economics 28(5): 719–41.

Torija Zane, E. y Gottschalk, R. (2018). Patrones financieros y de inversión en América Latina desde la perspectiva del comportamiento empresarial. In: M. Abeles, E. Pérez Caldentey y S. Valdecantos (eds.), Estudios sobre financierización en América Latina (pp: 205-226). Santiago: CEPAL.

Vernengo & Perez Caldentey (2021). Financialization, Deindustrialization and Instability in Latin America, Working paper series n° 547, Political Economy Research Institute, University of Massachusetts Amherst.

Wood, A. (1975). A Theory of Profits, Cambridge: Cambridge University Press.

Imprint
Editors:
Sigrid Betzelt, Eckhard Hein, Martina Metzger, Martina Sproll, Christina Teipen, Markus Wissen, Jennifer Pédussel Wu (lead editor), Reingard Zimmer

ISSN 1869-6406

Printed by
HWR Berlin

Berlin, October 2025