RESUMO EXPANDIDO (PARA ASSOCIADOS AKB) / EXTENDED ABSTRACTS (AKB MEMBERS) - ÁREA 6. ECONOMIA MONETÁRIA E FINANCEIRA E DINÂMICA INFLACIONÁRIA

FUNCTIONALITY OF THE FINANCIAL SYSTEM IN THE CONTEXT OF CLIMATE CHANGE: A POST-KEYNESIAN APPROACH

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Global institutions have documented rising temperatures, the intensification of extreme climate events, habitat destruction, and species extinction at unprecedented rates. To address the challenges of the climate transition, numerous studies highlight the need to mobilize a substantial volume of resources for climate mitigation and adaptation projects. Financing therefore represents a major obstacle to accelerating a global green transition aligned with the Paris Agreement. In this regard, at COP29, developed countries agreed to mobilize at least US$300 billion annually by 2035 to finance climate action in developing countries, although it was argued that the ideal amount should be at least US$1.3 trillion.

Within heterodox economics and political economy, several studies seek to assess different approaches—more neoliberal or more interventionist—to climate finance (Dziwok and Jager,2021), or, in Gabor's influential work (2021), the emergence of a new establishment consensus labeled the "Wall Street

Consensus," a new global agenda centered on de-risking assets in order to attract global investors to sustainable projects financed with public resources. The central critique of this consensus is that state-led investment de-risking does not effectively redirect global green finance flows to where they are most needed—namely, long-term green investments. Still within the heterodox field, some authors argue for the establishment of a new international financial architecture—including multilateral banks, national development banks, and regional public banks—to confront the challenges of the climate transition (Feil et al. 2025).

Despite these recent developments, there remains a gap in the literature regarding a theoretical discussion of which financial structure is most functional for sustainable development. Drawing on Keynes's finance-funding circuit and Minsky's financial fragility hypothesis, the post-Keynesian literature developed the concept of the functionality of the financial system, according to which "[a] financial system is functional for the development process when it expands the use of existing resources in the process of economic development with the minimum possible increase in financial fragility and other imbalances that may halt the growth process for purely financial reasons" (Studart, 1995–96). In this sense, the functions of finance—the provision of money by banks that allows investment expenditure to be implemented—and funding—the consolidation of firms' liabilities into maturities compatible with the financed asset—are fundamental to providing a system functional to economic development. In the absence of developed financial institutions and markets, during periods of optimistic expectations, planned investments may be financed through financial instruments incompatible with adequate funding for firms.

This article aims to develop a post-Keynesian approach to the functionality of the financial system in supporting environmental sustainability, given the need for a transformation in the productive structure toward environmental sustainability, focusing on two central questions: (a) How can financial risks related to climate change be reduced or mitigated? and (b) How can resources be mobilized and allocated in ways that effectively support climate action and sustainable development? To this end, the article takes as its starting point the following post-Keynesian concepts, adapted to sustainable development: decision-making under conditions of non-probabilistic uncertainty, the notion of

the socialization of investment, the finance-funding circuit, the non-neutrality of money, industrial/financial monetary circulation, among others. Methodologically, the study draws on the post-Keynesian literature and related work on sustainable finance.

The notion of radical uncertainty is fundamental to the discussion of sustainable finance. The literature has pointed out that the two main financial risks associated with climate are: (a) physical risks, related to extreme climate events such as hurricanes, floods, and wildfires, as well as gradual climate changes such as global warming; and (b) transition risks, arising from the transition to a low-carbon economy, as governments, firms, and investors adopt measures to mitigate the climate crisis, thereby generating stranded assets and deteriorating the loan portfolios of financial institutions. The central issue is that such risks may not be adequately assessed by conventional risk management tools (stress tests, scenario analysis, etc.), given the high level of uncertainty associated with them, which hinders or even prevents an accurate assessment of climate-related financial risks. This creates the need to adopt a precautionary approach to financial policies: the precautionary principle—according to which present actions produce effects in the future—encourages the adoption of preventive policies to protect the environment in the face of uncertainty (Chenet et al., 2021).

The notion of double materiality in the financial system, when applied to climate risks, recognizes the existence of a bidirectional relationship between finance and climate change. Double materiality broadens the traditional view of financial risk by incorporating not only how climate affects the financial system, but also how the financial system itself contributes to aggravating or mitigating the climate crisis. On the one hand, climate risks affect financial stability and asset values through the aforementioned physical and transition risks; on the other hand, the financing decisions of financial institutions also produce impacts on the climate and environment by directing resources toward activities that are more or less carbon-intensive. This raises the question of how to induce the financial system to orient its credit policies toward the development of less carbon-intensive activities.

Keynes's notion of the socialization of investment—understood as the expansion of the role of the state in coordinating and directing aggregate investment in the economy—can be applied to the challenges posed by the climate crisis. This notion must go beyond sustaining demand and actively guide structural transformation toward a sustainable economy. The state must finance and coordinate public and private investment, shaping its composition by directing resources toward low-carbon sectors and discouraging environmentally harmful activities. Through instruments such as public investment councils, capital budgets, and long-term public financing, the state can lead innovation, absorb risks avoided by the private sector, and promote the productive changes required for a just transition (Pessoa, 2025). Therefore, the notion of the socialization of investment is important in discussions of the functionality of the financial system, since central banks, public banks, development banks, and sovereign wealth funds can play a fundamental role in state coordination with respect to green finance.

With regard to the finance-funding circuit, the issue that arises is how to adapt it to the development of financing mechanisms aimed at the structural transformation required by climate change. What is suggested in this regard is the development of an ecological finance-funding circuit: directing finance toward clean activities while restricting polluting sectors through regulation and central bank policies; and, regarding funding, encouraging the creation of long-term financial instruments with financing costs compatible with investments in sustainable activities. Particularly with respect to funding, development banks, public funds, and sovereign wealth funds can play a crucial role. Based on the notion of the non-neutrality of money, central banks and banking institutions have a fundamental role in expanding monetary resources (finance) aimed at supporting sustainable development. Additionally, drawing on the monetary circuit developed by John Maynard Keynes (1930), the fundamental question is how to channel money from the financial circuit into the industrial circuit related to the development of low-carbon activities.

The article seeks to discuss a financial structure that is more functional to sustainable development, especially regarding the complementary role between central banks (whose role should go beyond the issue of financial risks), development banks (whose role should go beyond correcting market failures),

and sovereign wealth funds (given their capacity to mobilize substantial funding in commodity-exporting countries). The argument advanced is that the green transition is fundamentally a macro-financial architecture issue, and in this sense the financial structure should be viewed as part of a macro-financial regime, understood as the institutional arrangement that structures the creation, allocation, and discipline of credit, and that constitutes the core of the state-finance nexus seeking to accelerate green investment and reduce carbon-intensive activities (Gabor and Braun, 2025).

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Palavras-chave: sustainable finance; climate change; pos-keynesian approach.