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The Evolution and Diversification of Stock-Flow Consistent Modelling: A Bibliometric Review

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ABSTRACT

This paper presents a bibliometric analysis of the Stock-Flow Consistent (SFC) literature from 1975 to 2026. The corpus includes 479 publications from Scopus, Web of Science, and expert-guided screening. Building on the classification proposed by Nikiforos and Zezza (2017), using keyword-based classification and manual validation, the paper maps the evolution of five major research areas: extensions of the core SFC framework, open-economy models, empirical SFC models, ecological SFC models, and SFC-agent-based models. The results show a clear expansion of the literature after the Global Financial Crisis, followed by further acceleration after 2017. Recent growth is especially visible in empirical and ecological SFC applications, as well as in works combining multiple research areas. The journal mapping also shows that, while SFC research remains strongly rooted in heterodox economics outlets, it has increasingly expanded into interdisciplinary and non-traditional journals. The paper contributes by updating the 2017 survey and documenting the diversification and broader diffusion of SFC research.

JEL Codes: E12; B41; E17

Keywords: Stock-Flow Consistent Models; Macroeconomic modeling; ecological macroeconomics; bibliometric analysis

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1. INTRODUCTION

The Stock-Flow Consistent (SFC) approach has become an important analytical framework for understanding macroeconomic dynamics through the systematic integration of flows and stocks within a coherent accounting structure. Its central premise is that every economy must satisfy the accounting identities governing transactions among agents and the corresponding changes in financial stocks. Each economic flow, such as income or expenditure, is necessarily associated with a change in assets or liabilities. In this sense, SFC modelling offers an internally coherent alternative to conventional macroeconomic approaches, particularly for the analysis of financial balances, monetary and fiscal policy, and institutional-sector interactions (Nikiforos and Zezza 2017).

The SFC approach emerged during a period of declining influence for Keynesian economics in the 1960s and 1970s, when monetarism and neoclassical economics became increasingly dominant (Dos Santos 2006). Its principal pioneers were Wynne Godley at the University of Cambridge and James Tobin at Yale University. Drawing on his prior experience at the UK Treasury, Godley led the Department of Applied Economics at Cambridge, where he founded the Cambridge Economic Policy Group. Together with Francis Cripps and other collaborators, he developed some of the first macroeconomic models grounded in sectoral accounting and policy simulation (Godley and Cripps 1974; Godley and Francis 1983; Cripps and Godley 1976; Cripps and Godley 1978). In the United States, Tobin's work emphasized the importance of portfolio choices, financial stocks, and the interaction between real and financial variables. These two traditions embodied the core principles of SFC modelling.

The consolidation of the SFC approach accelerated after Godley joined the Levy Economics Institute in 1994. In collaboration with Marc Lavoie, he developed the influential book *Monetary Economics* and the Levy macroeconomic model, which gained prominence for anticipating both the 2001 recession and the Great Recession. These contributions marked a turning point in the literature and stimulated a rapid expansion of research applying SFC models to issues such as fiscal austerity, global imbalances, financial instability, and environmental sustainability. Nikiforos and Zezza (2017) provided a foundational survey of this expanding literature and organized it around five main research areas: extensions of the core SFC framework, open-economy models, empirical SFC models, ecological SFC models, and SFC-agent-based models. Their classification remains a key reference point for understanding the internal structure of the field.

Since the publication of that survey, however, the SFC literature has continued to expand and diversify. New contributions have developed empirical country models, ecological and climate-related applications, agent-based SFC frameworks, policy-institutional models, and analyses of small open economies and financialized systems. At the same time, SFC research has increasingly appeared in journals beyond the traditional heterodox economics outlets, including venues associated with ecological economics, energy, finance, complexity, and applied modelling. These developments raise the question of whether the field remains organized around the categories identified by Nikiforos and Zezza, or whether new forms of interaction and cross-fertilization have emerged.

Despite its growing influence, the SFC approach faces several practical challenges. Constructing SFC models requires detailed and reliable accounting data, which may be difficult to obtain in countries where national and financial accounts are incomplete or underdeveloped (Zezza and Zezza 2019). In addition, implementing large-scale models demands substantial expertise in programming, matrix algebra, and accounting theory. These barriers make the recent expansion of the SFC literature particularly relevant: the growth of the field reflects not only the appeal of accounting-consistent macroeconomic analysis, but also the emergence of new datasets, modelling tools, institutional applications, and research communities capable of extending the approach to different empirical and policy contexts.

This paper addresses these questions through a bibliometric analysis of the SFC literature from 1975 to 2026. The corpus combines records from Scopus and Web of Science with expert-guided manual screening, allowing the analysis to include journal articles, books, book chapters, policy reports, and other relevant contributions not fully captured by standard bibliographic databases. The paper uses keyword-based classification, manual validation, journal mapping, and term co-occurrence analysis to examine the evolution, composition, and diffusion of SFC research. This strategy makes it possible to map the structure of the literature within the SFC, and to interpret its development as a dynamic process involving theoretical consolidation, methodological diversification, and broader diffusion across publication outlets.

The analysis is guided by four research questions. First, how has the volume and composition of SFC literature evolved over time? Second, to what extent do the five categories identified by Nikiforos and Zezza (2017) still organize the field? Third, which journals and publication communities have become important outlets for SFC research? Fourth, what thematic linkages and emerging research frontiers are visible through keyword and co-occurrence analysis?

By answering these questions, the paper contributes to the literature in three ways. First, it updates the mapping of SFC research beyond the period covered by Nikiforos and Zezza (2017), with particular attention to developments after the Global Financial Crisis and the post-2017 expansion of the field. Second, it evaluates whether the original five-category classification remains useful for interpreting the current structure of SFC research. Third, it examines the changing publication landscape of the field, showing how SFC models have remained rooted in heterodox macroeconomics while also expanding into interdisciplinary and non-traditional outlets.

The remainder of the paper is organized as follows. Section 2 presents the data sources, corpus construction, classification strategy, and bibliometric methods. Section 3 reports the results. Section 3.1 examines the evolution of publication patterns and compares the findings with the classification proposed by Nikiforos and Zezza (2017). Section 3.2 analyzes the journals and publication communities in which SFC research has appeared. Section 3.3 studies keyword co-occurrences and emerging research linkages. Section 4 concludes by summarizing the main findings, limitations, and directions for future research.

2. METHODOLOGY

To identify the scientific literature on Stock-Flow Consistent (SFC) models, a systematic search was conducted in the Scopus and Web of Science (WoS) databases on April 1, 2026. The search covered the entire period indexed by each database (i.e., no time restrictions were imposed) and was limited to English-language publications. To capture the broad range of scientific outputs in the field, the search included journal articles, conference papers, book chapters, books, and working papers whenever indexed by the databases.

The same Boolean search string was applied to the title, abstract, and keyword fields in both databases: (stock-flow consistent OR stock flow consistent OR SFC model) AND NOT ("auditory feedback" OR "sensory feedback" OR "nonhuman" OR "speech" OR "language" OR "controlled study" OR "neuro" OR "cognitive"). The search combined the principal terms used to identify the Stock-Flow Consistent literature with a set of exclusion terms designed to eliminate unrelated publications using the acronym "SFC" in other scientific disciplines. This strategy retrieved 315 records from Scopus and an additional 30 records from Web of Science that were not already included in the Scopus dataset. Complete bibliographic metadata—

including title, authors, abstract, keywords, publication year, source, document type, and institutional affiliations—were exported to construct the initial corpus for the bibliometric analysis.

Using this strategy, 315 documents were retrieved from Scopus, while an additional 30 relevant records were identified in Web of Science. Because the label “SFC” became firmly established only with the contributions of Claudio Dos Santos—even though many of the foundational elements of the approach were already present in the earlier Cambridge models developed by Wynne Godley and collaborators—the scope of the review was deliberately broadened to reflect the intellectual history of the field.

Given the historical development of the Stock-Flow Consistent (SFC) literature, relying exclusively on automated database searches would provide only a partial representation of the field. Many seminal contributions were originally published as books, book chapters, policy reports, working papers, or institutional publications, several of which are not comprehensively indexed in major bibliographic databases. To ensure that the review accurately captured both the historical evolution and the contemporary development of the SFC research program, the automated search was therefore complemented by an expert-guided manual screening process. To this end, an expert-guided manual screening process added 158 further publications, including books, book chapters, policy reports, working papers, and other materials not fully captured by automated database searches. This complementary effort also incorporated historically significant contributions, such as the Policy Reviews produced by Godley's team in Economic Policy Review, which were based on the UK model and are closely related to the later Strategic Analysis series developed at the Levy Economics Institute of Bard College.

The expert screening was conducted by the authors, all of whom have extensive experience working with SFC models and the associated literature. The sole inclusion criterion was the publication's substantive relevance to the development of the SFC approach. Consequently, all publications identified through expert knowledge that made an original theoretical, methodological, empirical, or policy contribution to the SFC literature were included in the corpus. Borderline cases were discussed jointly by the authors and resolved through expert judgement based on their explicit connection to the SFC research program. Peer-reviewed and non-peer-reviewed publications were treated equally during corpus construction, as the objective was to reconstruct the intellectual evolution of the field rather than to assess research quality. Accordingly, no differential weighting was assigned to publications based on document type in

the subsequent analyses.¹

After removing duplicate records (9) and excluding documents deemed unsuitable for analysis (15), the final corpus was narrowed from 503 to 479 publications. Finally, contributions published in 2026 were filtered out, consolidating the dataset to 465 entries.

To establish a clearer connection with the earlier review by Nikiforos and Zezza (2017), the present study maps its classification scheme onto that proposed in the original survey, thereby situating the results more explicitly within the existing literature without altering the underlying cluster structure. This mapping was constructed via three steps: (a) identifying the publications included in the original survey; (b) matching patterns in titles, abstracts, and keywords to classify new works into the five categories defined by the survey; and (c) manually screening and refining the resulting classifications where necessary (see Figure 1 and Table 1).

In addition, the study draws on the journal clustering proposed by Coronado and Veneziani (2025) to identify the publication outlets in which this literature has appeared. Although most journals publishing SFC research fall within the broader heterodox categories identified by the authors, the analysis reveals that SFC studies are increasingly being published in journals outside these traditional outlets, thereby expanding the range of publication opportunities available to researchers in the field.

The bibliographic records were exported in `.csv` and `.bib` formats, and all data processing, filtering, and analyses were conducted in `.R` (version 4.4.2). The bibliometric workflow was primarily implemented using the `bibliometrix` package (version 5.4.1, Aria and Cuccurullo 2017), complemented by several additional packages, including `dplyr` for data manipulation, `ggplot2` for statistical graphics, `ggraph` and `igraph` for network analysis, `wordcloud` for text visualization, `tm` for text mining and preprocessing, and `openxlsx` for data import and export.

Data preparation comprised duplicate detection, standardization of author names, harmonization of institutional affiliations, and semantic normalization of keywords. Text preprocessing included case standardization, removal of punctuation and English stopwords, and the harmonization of synonymous or closely related expressions through manually curated cleaning dictionaries. To preserve the interpretability of technical terminology, neither stemming nor lemmatization was applied. Non-English titles and abstracts were retained in their original

¹ To ensure transparency and reproducibility, the complete bibliographic corpus used in this study is provided as supplementary material upon request.

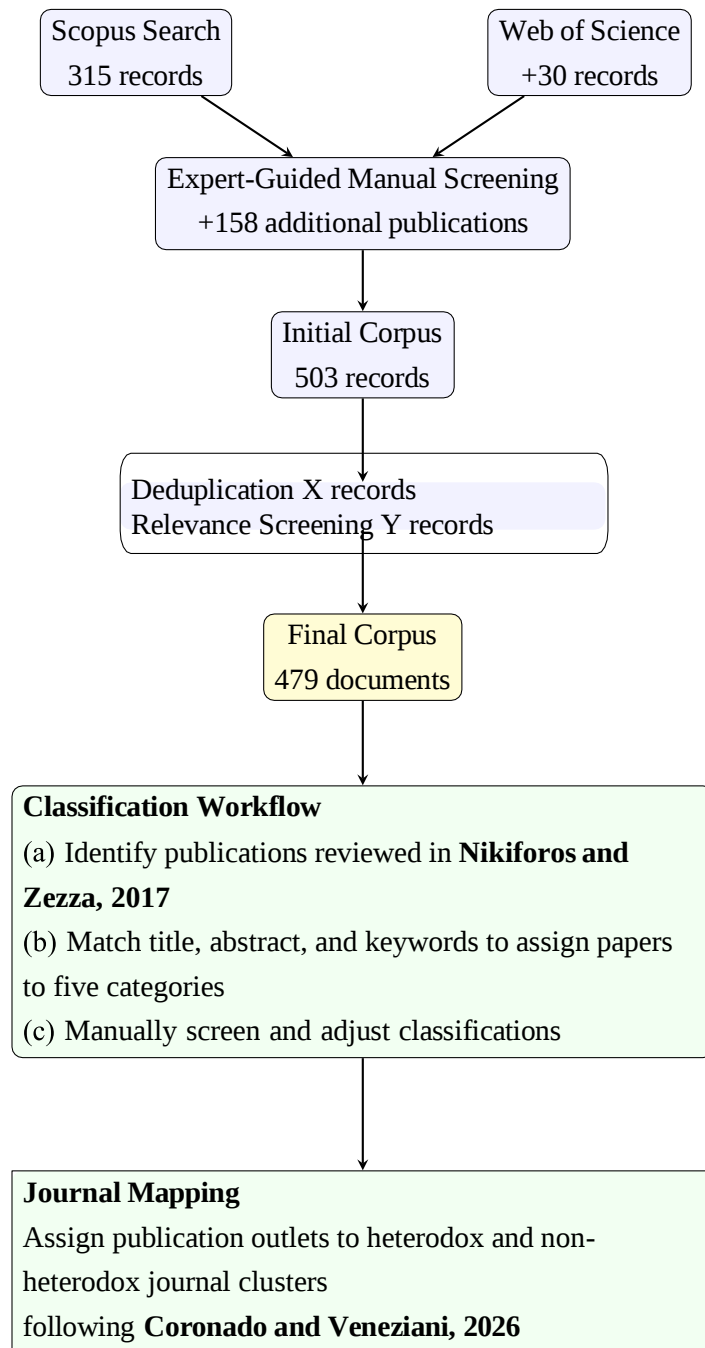
language and processed using the same cleaning pipeline. Records lacking abstracts or author keywords were not excluded; instead, they were retained in the corpus and, where necessary, the title was used as the textual source for the text-mining analyses.

Table 1: Keywords used to perform the first identification across the five thematic categories.

Category	Initial Keywords Used for Abstract, Title, and Keyword Search
Extensions	financialization; monetary circuit; real financial; financial sector; financial motives; financial markets; financial actors; financial institutions; shareholder value; corporate governance; banks; financial intermediaries; derivatives; asset-backed securities; investment funds; money market mutual funds; income distribution; functional distribution; personal distribution; inequality; rentiers; workers; indebtedness; saving rate; bottom 90%; TMC; Minsky; Minskyan; financial instability; Fordist regime; financialization regime; initial finance; final finance; housing market bubble; real estate; asset bubbles; sustainable growth.
Open Economy	open economy; two-country model; three-country model; four-country model; international transactions; foreign deficit; foreign reserves; global imbalances; balance of payments; current account; exchange rate; fixed exchange rate; flexible exchange rate; pegged exchange rate; monetary union; eurozone; ECB; optimum currency area; clearing union; bancor; TARGET2; fiscal and external deficits; international clearing union; foreign assets; international reserves; exchange rate expectations; IS-LM; interest parity; endogenous interest rate; stabilization policies.
Empirical SFC	empirical SFC; quarterly; empirical; whole-country model; macroeconomic model; national accounts; econometric estimation; calibration; forecasting; country model.
Environmental SFC	environmental SFC; green SFC; ecological SFC; SFC-IO; I-O; inputoutput; SFC environment; stock-flow environment; CO ₂ ; pollution; energy sector; sustainability; sustainable growth; stationary state; degrowth; climate change; green investment; clean investment; ecological; natural resources; resource depletion; thermodynamics.
SFC-ABM	agent-based; ABM; SFC-ABM; micro-foundations; bottom-up; complex systems; emergent properties; agent interaction; micro-behaviour.

Source: Own elaboration. Terms were matched against titles, abstracts, and author keywords to classify publications not included in the original review.

The bibliometric analysis was structured into four complementary levels, as illustrated in Figure 1. First, an exploratory analysis of scientific production was conducted using indicators such as the annual evolution of publications, the principal journal outlets (based on Coronado and Veneziani, 2025), and the main thematic categories (based on Nikiforos and Zezza, 2017). Second, the co-authorship network was analyzed to identify patterns of scientific collaboration and the emergence of research communities within the SFC literature. Third, thematic trends were examined through the co-occurrence of terms in titles, abstracts, and keywords. Finally, a set of visualizations—including frequency plots, network graphs, Sankey diagrams, and publication maps—was developed in .R to illustrate the structure and evolution of the field.



3. RESULTS

3.1. Clusters of Analysis from Previous Survey

The descriptive statistics reported in Table 1 provide an overview of the evolution and composition of the SFC literature. The final corpus comprises 465 publications, of which 315 (67.7%) are peer-reviewed journal articles, 40 (8.6%) are books or book chapters, and 110 (23.7%) consist of other outputs including working papers, policy reports, technical notes, and institutional publications. The dominance of journal articles reflects the progressive institutionalization of the field within academic publishing, although the continued importance of reports and books highlights the strong policy orientation that has characterized the SFC tradition since its inception. The distribution across decades further illustrates the rapid expansion of the literature: only 7 publications were identified in the 1970s, 13 in the 1980s, and 5 in the 1990s, compared with 56 in the 2000s, 182 in the 2010s, and 202 during the first half of the 2020s. This acceleration is also reflected in average annual output, which increased from 6.2 publications per year before 2017 to 30.4 publications per year thereafter, underscoring the structural break that followed the first comprehensive survey by Nikiforos and Zezza (2017).

The bibliometric trajectory of the SFC literature, shown in Figure 2, reveals a gradual evolution from a marginal foundational phase to a more recent period characterized by thematic consolidation and diversification. Between 1975 and 2006, scholarly output remained very limited, with fewer than five publications per year. This period corresponds to the formative stage of the approach, during which its core principles were developed primarily through the regular *Policy Reviews* published in *Economic Policy Review* from 1975 (Atkinson et al. 1975) to 1982 (Gudgin, Moore, and Rhodes 1982), as well as through seminal works such as Godley and Cripps (1983) and Cripps and Godley (1976).

The 1980s and mid-1990s marked a transitional phase for both the literature and some of its leading contributors, most notably Wynne Godley, who moved to the United States and established a new research agenda at the Levy Economics Institute of Bard College (Nikiforos and Zezza 2017). Publication activity began to increase around the turn of the century, when Godley (1999) inaugurated the *Strategic Analysis* series, which provided regular medium-term assessments of the US economy. During the same period, the theoretical collaboration between

Godley and Marc Lavoie generated a second major stream of contributions, culminating in the publication of *Monetary Economics* (Godley and Lavoie 2007).

The Global Financial Crisis gave the literature a substantial boost, with annual publication counts roughly doubling in the early 2010s, particularly in response to the eurozone crisis. This expansion was also facilitated by the development of software tools, standardized templates, and open-source resources, which reduced entry barriers and enhanced comparability across applications. A further milestone occurred in 2017 with the publication of the survey by Nikiforos and Zezza (2017), which provided the first systematic overview of the field's rapid expansion.

A more recent structural break is visible in the aftermath of the COVID-19 pandemic and the renewed emphasis on industrial policy and the green transition. These developments stimulated the growth of ecological SFC (E-SFC) models, whose diffusion can be traced to the influential contribution of Dafermos, Nikolaidi, and Galanis (2017). At the same time, several macroeconomic modelling teams have been established within policy institutions (for example, Yilmaz and Godin (2020); Moreno et al. (2024); Barbieri Hermitte et al. (2023); Yilmaz et al. (2025); Perez Caldentey, Nalin, and Rojas Rodriguez (2023)) and research centers ((Byrialsen and Raza (2021); Meijers, Muysken, and Sleijpen (2016); Dafermos and Nikolaidi (2021); Reissl et al. (2025)). These developments have created important bridges between the SFC approach and broader applied macroeconomic, policy-modelling, ecological, and interdisciplinary research agendas.

Table 1 also summarizes the thematic composition of the corpus. The Extensions category remains the largest, accounting for 241 publications (35.8%), followed by Empirical SFC with 155 publications (23.0%) and Open Economy models with 119 (17.7%). SFC-ABM represents 76 publications (11.3%), while the remaining contributions belong to the ecological SFC category. Although these figures confirm the continuing centrality of the theoretical core identified by Nikiforos and Zezza (2017), they also reveal the rapid expansion of the empirical and interdisciplinary applications that now account for a substantial share of the literature.

Figure 3 reveals a strongly convex trajectory in the types of publication outlets used by the SFC literature. In the early stages of the field, there was no clear preference among peer-reviewed journal articles, book chapters, standalone books, or other forms of publication, including technical reports, policy papers, technical notes, and recurring institutional series. Since the 2010s, however, the number of journal articles published each year has increased markedly, while other publication formats have remained broadly stable. This pattern reflects both the growing recognition of scholars working in this field and the increasing willingness of journal editors to publish SFC-based contributions.

Examining the thematic categories identified by Nikiforos and Zezza (2017) in Figure 4, it becomes clear that the expansion has been led primarily by studies associated with the original core of the SFC approach. This growth has been followed by the rapid rise of Empirical SFC models and Ecological SFC applications. Research on Open Economy models and SFC-ABM hybrids has maintained a steady level of output, with a modest acceleration in recent years.

One of the most significant developments documented in Table 1 and Figure 5 is the growing overlap among research themes. Multiple-category papers now account for 170 publications (36.6%), compared with 295 single-category contributions (63.4%). This represents a substantial increase in thematic integration relative to the literature surveyed by Nikiforos and Zezza (2017), where research strands were considerably more compartmentalized. Rather than developing independently, the different branches of the SFC literature increasingly interact with and build upon one another.

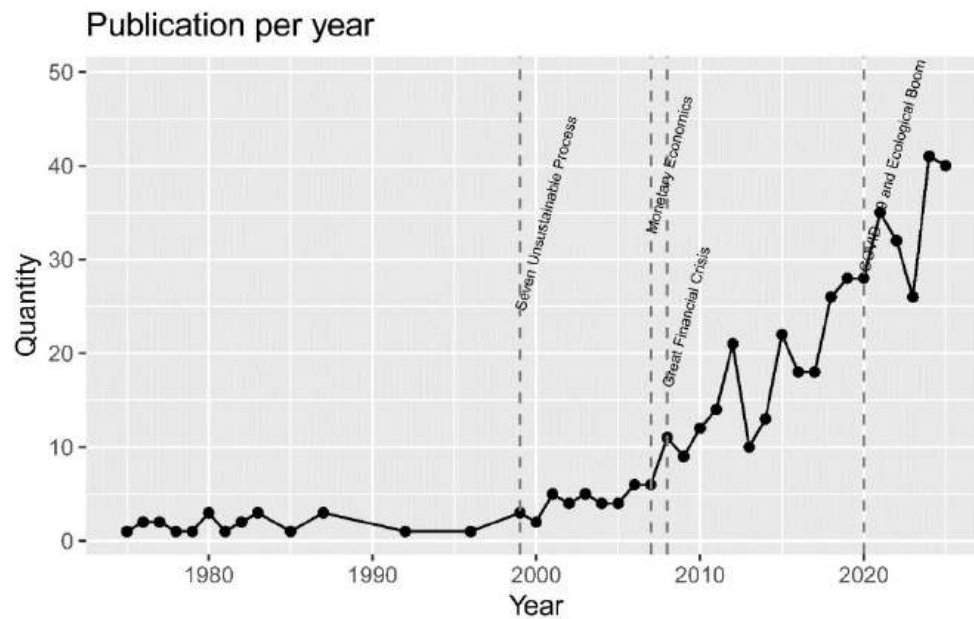
The heatmap of co-occurring categories in Figure 6 further highlights this trend. Empirical SFC, Ecological SFC, and SFC-ABM studies have increasingly integrated the theoretical foundations and extensions developed by earlier authors. In addition, Empirical SFC models are progressively combined with both Ecological SFC and SFC-ABM approaches, reinforcing the emergence of a more interconnected research landscape. Figures 7 and 8 provide additional support for this finding by showing that the Extensions category remains the largest thematic hub while exhibiting strong linkages with all other categories. Empirical SFC displays a similar pattern, underscoring its growing importance and its central role in shaping the recent evolution of the literature.

Table 1: Summary Statistics

Period	Average annual publications	Tag	Publications	Percentage
BEFORE 2017	6	Article	315	67.7
2017 ONWARDS	30	Book or Chapter	40	8.6
		Other	110	23.7
PERIOD	N. OF PUBLICATIONS	Empirical SFC	155	23
1970S	7	Extensions	241	35.8
1980S	13	Open Economy	119	17.7
1990S	5	SFC-ABM	76	11.3
2000S	56			
2010S	182	Multiple categories	170	36.6
2020S	202	Single category	295	63.4

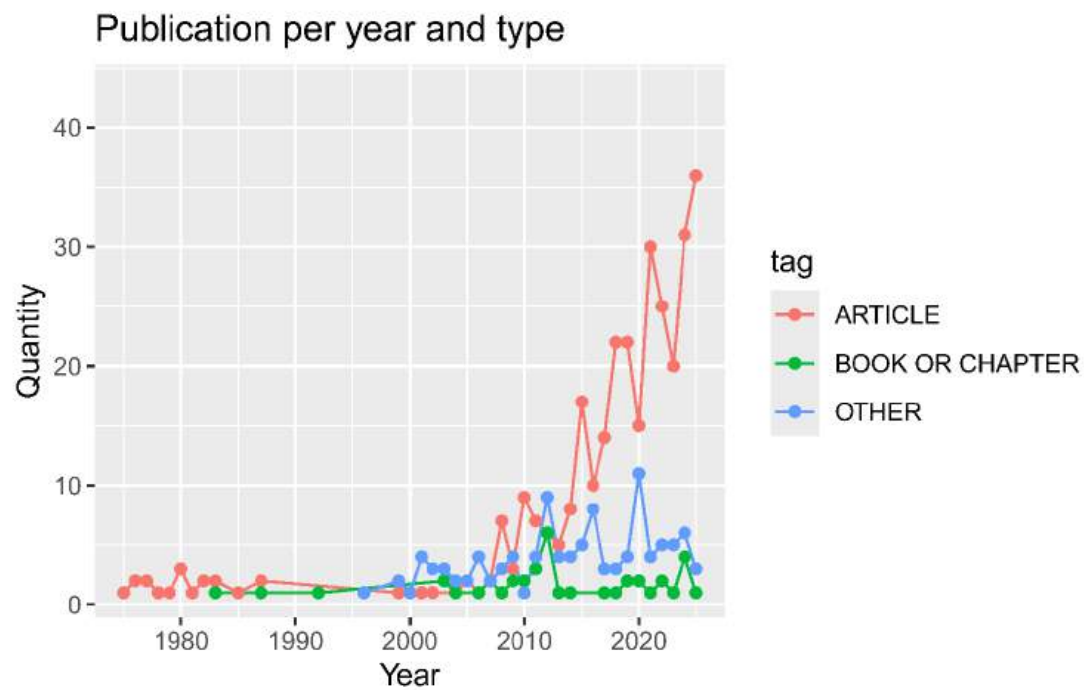
Source: own elaboration

Figure 2. Number of Publications per Year



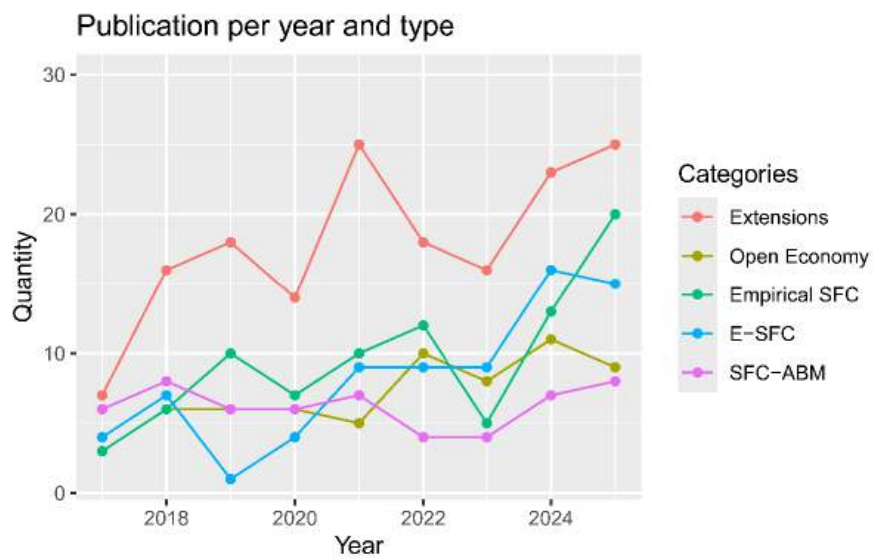
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Figure 3. Types of Publication



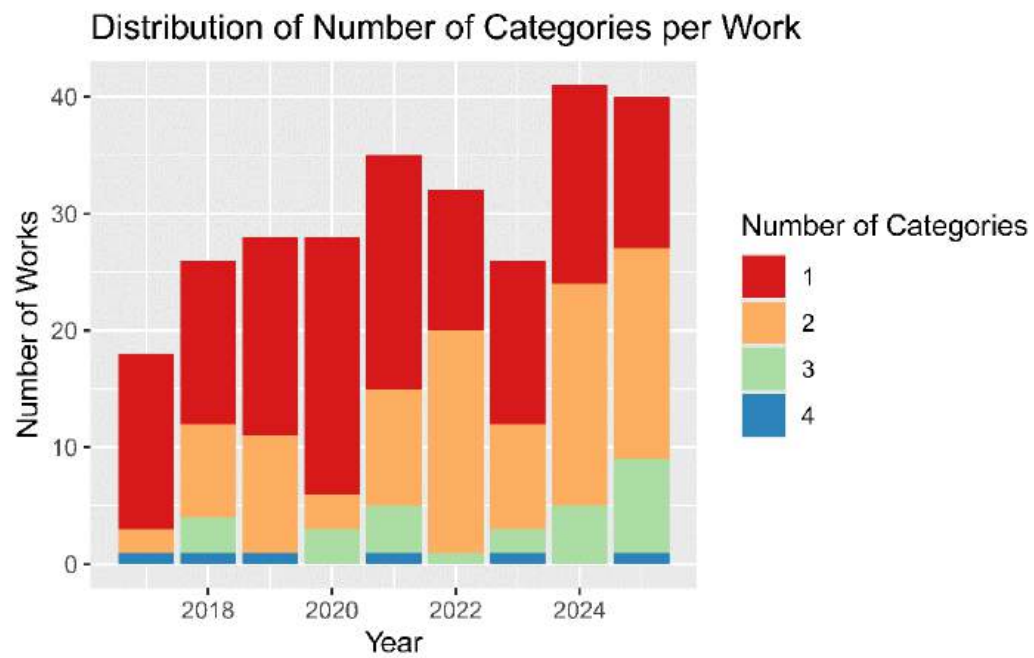
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Figure 4. Trajectories of Categories



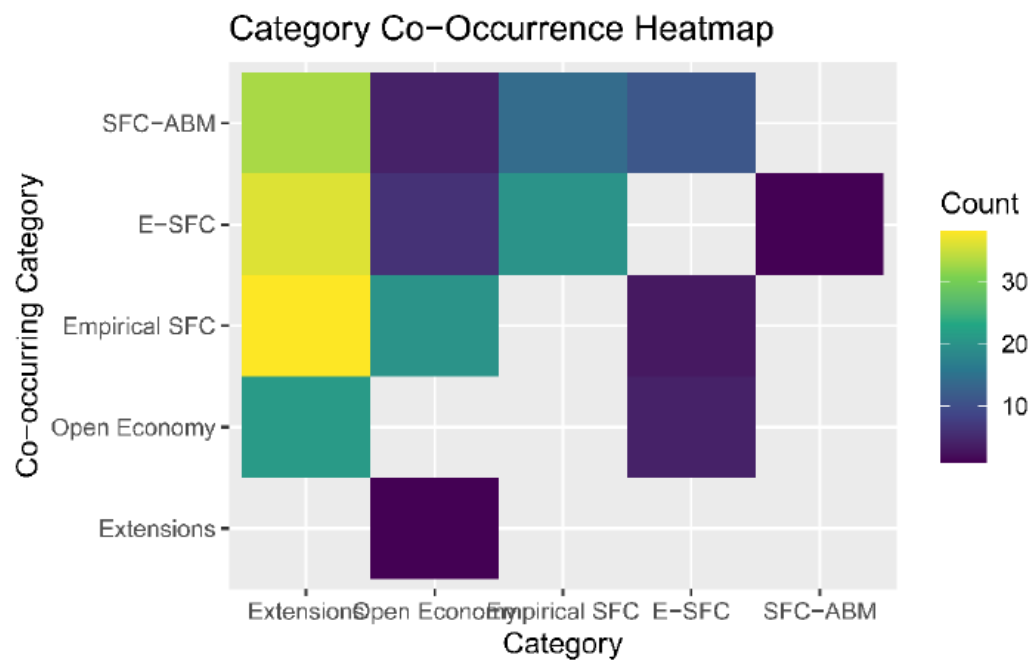
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Figure 5. Categories Heterogeneity



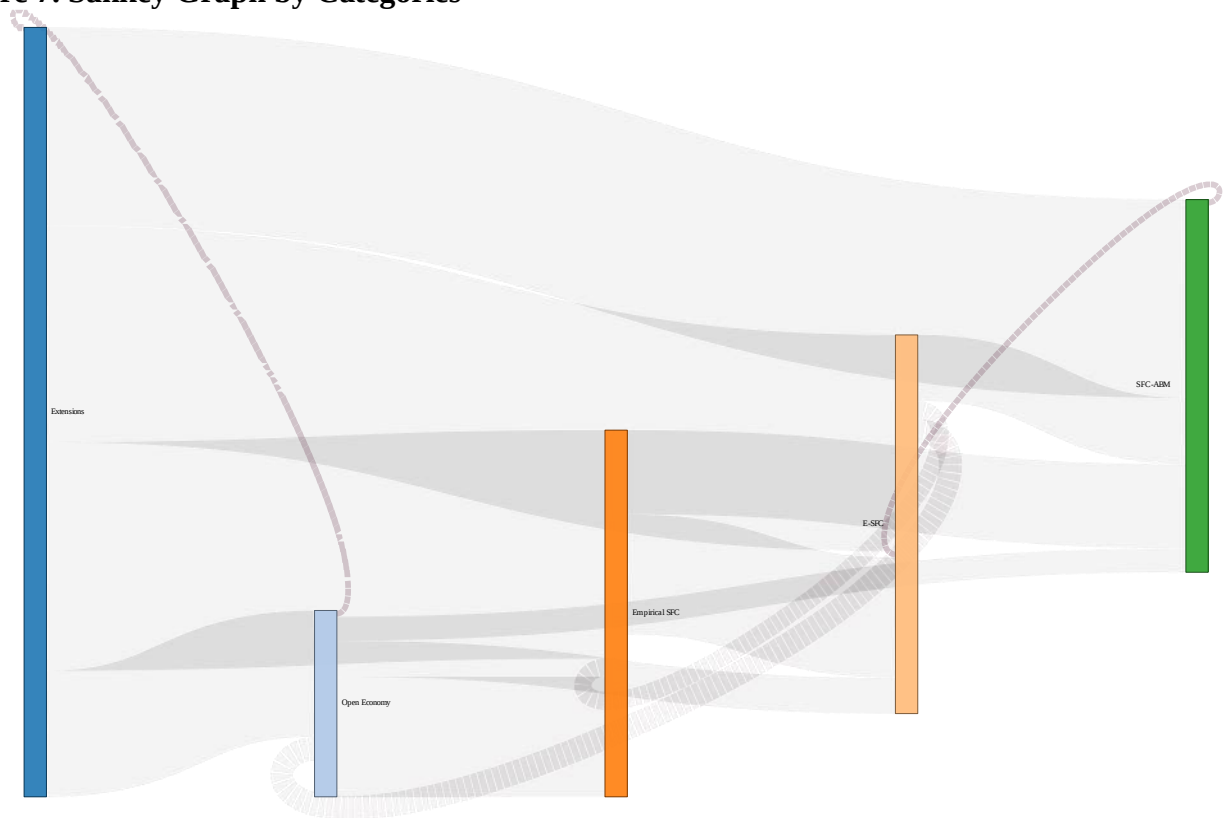
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Figure 6. Categories Co-Occurrence



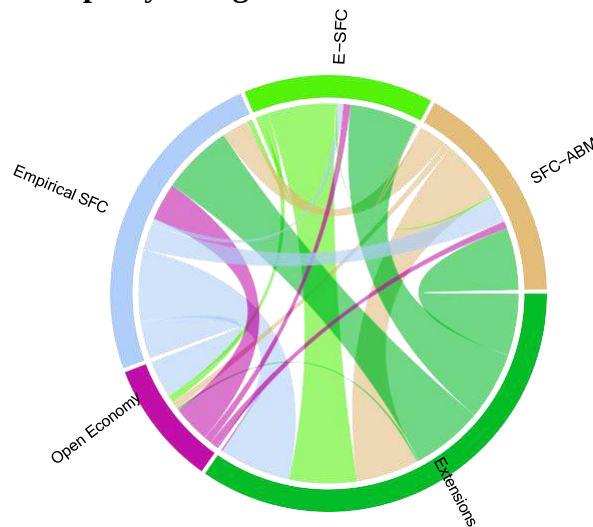
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Figure 7. Sankey Graph by Categories



Source: own elaboration

Figure 8. Chord Graph by Categories



Source: own elaboration

3.2. Results per Journal

The analysis of peer-reviewed publication outlets in the Stock-Flow Consistent (SFC) literature reveals two broad trends: the continued importance of traditional heterodox economics journals and the growing diffusion of SFC research into interdisciplinary and non-traditional publication venues.

The taxonomy of heterodox economics journals proposed by Coronado and Veneziani (2025). Journals included in their classification are grouped according to the corresponding heterodox journal categories, while journals not covered by their taxonomy are assigned to two additional groups. The first includes outlets that, although not classified by Coronado and Veneziani (2025), can still be considered part of a broader heterodox or non-orthodox tradition. The second captures journals outside the traditional heterodox economics domain, including outlets associated with ecological economics, energy, finance, complexity, applied modelling, and interdisciplinary research.

To classify journal outlets, this section follows the taxonomy of heterodox economics journals proposed by Coronado and Veneziani (2025). Journals not included in their classification were grouped into two additional categories, as shown in Table 2. The first, labeled for short Unclassified 2, comprises outlets that can still be considered part of a broader heterodox or non-orthodox tradition. This group includes, most notably, *Economic Policy Review* and several

prominent Spanish-language journals. The remaining journals were classified as interdisciplinary and mainstream outreach outlets (New Outreach for short), captures journals outside the traditional heterodox economics domain, including outlets associated with ecological economics, energy, finance, complexity, applied modelling, and interdisciplinary research. Table 2 reports the journals included in these two additional categories.

Table 2: Additional journal categories identified beyond the heterodox classification proposed by Coronado and Veneziani (2025).

Category	Journals
Unclassified 2 (Heterodox / Non-Orthodox Outlets)	Revue de la Régulation – Capitalisme, Institutions, Pouvoirs; Revue d'Économie Politique; El Trimestre Económico; Investigación Económica; Brazilian Keynesian Review; Economic Policy Review; Journal of Applied Econometrics.
New Outreach (Interdisciplinary and mainstream outreach)	Accounting, Organizations and Society; Advances in Complex Systems; Applied Energy; Cleaner Environmental Systems; Comparative Economic Studies; Eastern Journal of European Studies; Economia Politica; Economic Analysis and Policy; Economic Modelling; Economics; Energy Economics; Energy Policy; Finance Research Letters; Frontiers of Economics in China; Global Sustainability; IEEE Transactions on Computational Social Systems; Indian Economic Journal; International Economics; International Journal of Economic Policy Studies; International Journal of Theoretical and Applied Finance; International Review of Financial Analysis; Iranian Economic Review; Journal for Studies in Economics and Econometrics; Journal of Applied Accounting Research; Journal of Banking and Finance; Journal of Clinical Medicine of Kazakhstan; Journal of Economic Behavior and Organization; Journal of Economic Integration; Journal of Economic Interaction and Coordination; Journal of Economic Surveys; Journal of Financial Stability; Journal of Fudan University (Natural Science); Journal of Network Theory in Finance; Journal of Simulation; Korean Economic Review; Mathematics and Financial Economics; North American Journal of Economics and Finance; Papers in Regional Science; Physica A: Statistical Mechanics and Its Applications; PLOS ONE; Review of Evolutionary Political Economy; Review of Income and Wealth; Review of International Economics; Revista Economía; Scientific Reports; SIAM Journal on Financial Mathematics; South Asian Journal of Macroeconomics and Public

Source: own elaboration. “Heterodox / Non-Orthodox Outlets” includes outlets that can still be considered part of the broader heterodox or non-orthodox tradition, whereas “Interdisciplinary and mainstream outreach ” captures journals outside the traditional publication venues of heterodox research.

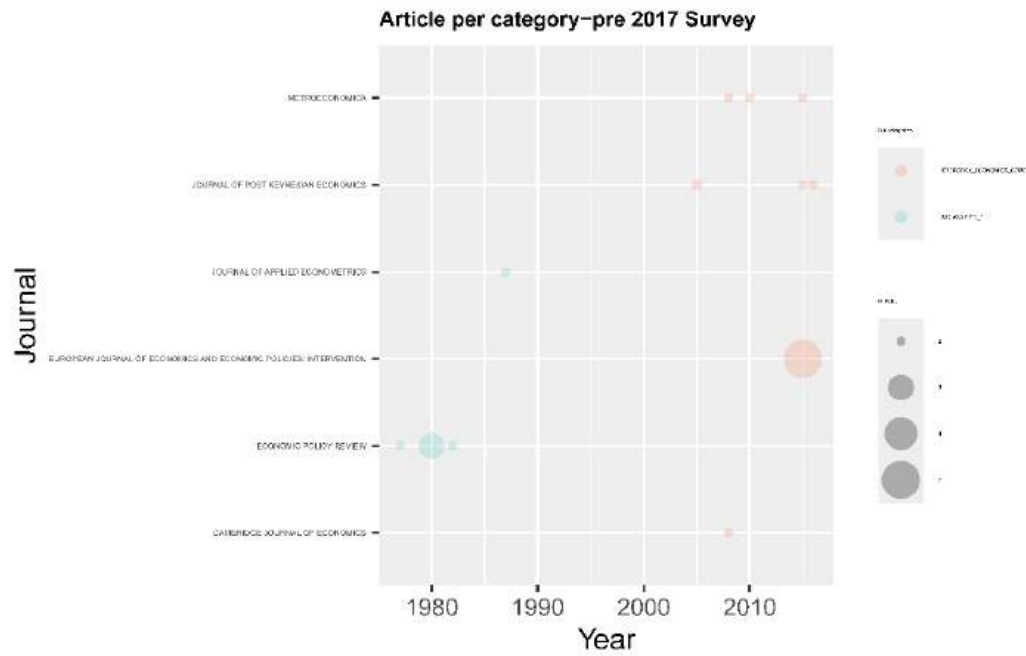
Table 3. Rank by Publications, pre- and post-2017

<i>Rank</i>	<i>Pre-2017 journal</i>	<i>Category</i>	<i>N. Publications</i>
1	Journal if Post Keynesian Economics	Heterodox Economics Core	13
2	Economic Policy Review	Unclassified 2	12
3	Cambridge Journal of Economics	Heterodox Economics Core	11
4	European Journal of Economics And Economic Policies: Intervention	Heterodox Economics Core	10
5	Metroeconomica	Heterodox Economics Core	9
6	Economics	New Outreach	3
7	Ecological Economics	Development And Sustainability	2
8	International Review of Applied Economics	Heterodox Economics Core	2
9	Journal Of Applied Econometrics	Unclassified 2	2
10	Journal Of Economic Behavior and Organization	New Outreach	2
11	Journal Of Economic Dynamics and Control	Behavioural Evolutionary	2
12	Review Of Political Economy	Heterodox Economics Core	2
13	Revue Économique	New Outreach	2
14	Accounting, Organizations and Society	New Outreach	1
15	Advances In Complex Systems	New Outreach	1

<i>RANK</i>	<i>POST-2017 JOURNAL</i>	<i>CATEGORY POST</i>	<i>N. PUBLICAT</i>
1	European Journal of Economics and Economic Policies: Intervention	Heterodox Economics Core	
2	Review Of Political Economy	Heterodox Economics Core	
3	Journal Of Post Keynesian Economics	Heterodox Economics Core	
4	Ecological Economics	Development and Sustainability	
5	Metroeconomica	Heterodox Economics Core	
6	Structural Change and Economic Dynamics	Heterodox Economics Core	
7	Journal Of Evolutionary Economics	Behavioural Evolutionary	
8	Cambridge Journal of Economics	Heterodox Economics Core	
9	Economic Modelling	New Outreach	
10	Energy Economics	New Outreach	
11	Industrial And Corporate Change	Behavioural Evolutionary	
12	International Journal of Political Economy	Heterodox Economics Core	
13	Review Of Keynesian Economics	Heterodox Economics Core	
14	Journal Of Economic Behavior and Organization	New Outreach	
15	Journal Of Economic Dynamics and Control	Behavioural Evolutionary	

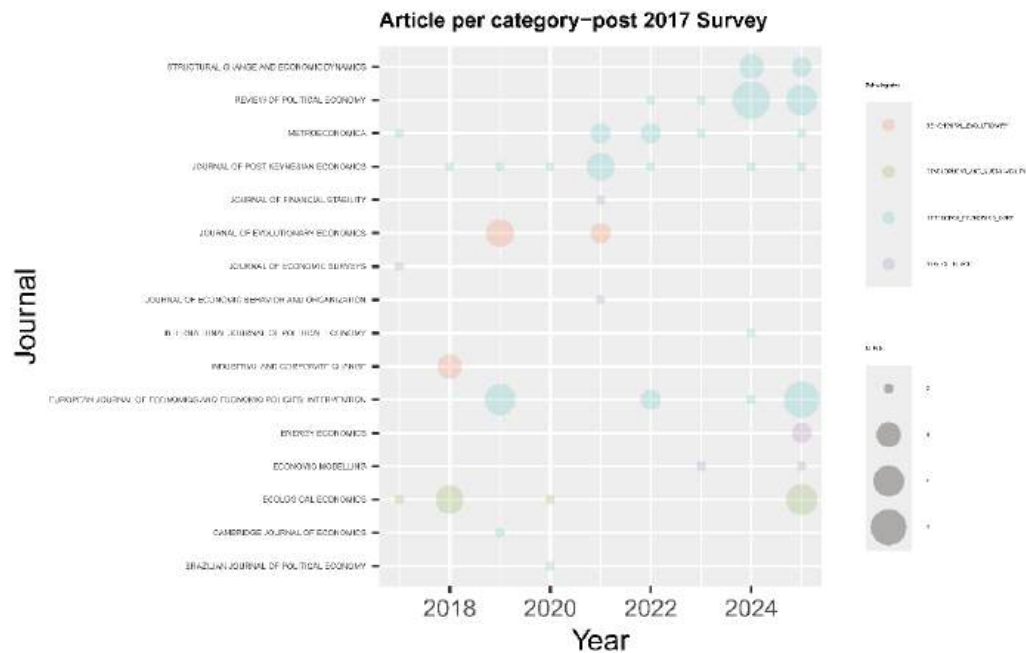
Source: own elaboration.

Figure 9. Articles per Category, Pre-2017



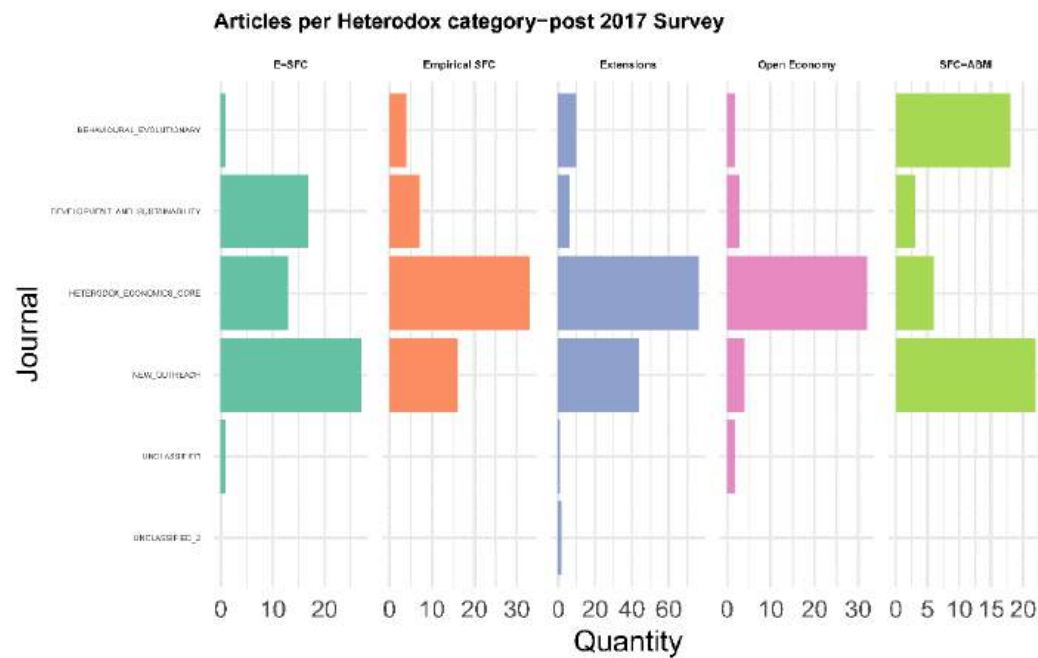
Source: own elaboration

Figure 10. Articles per Category, Post-2017



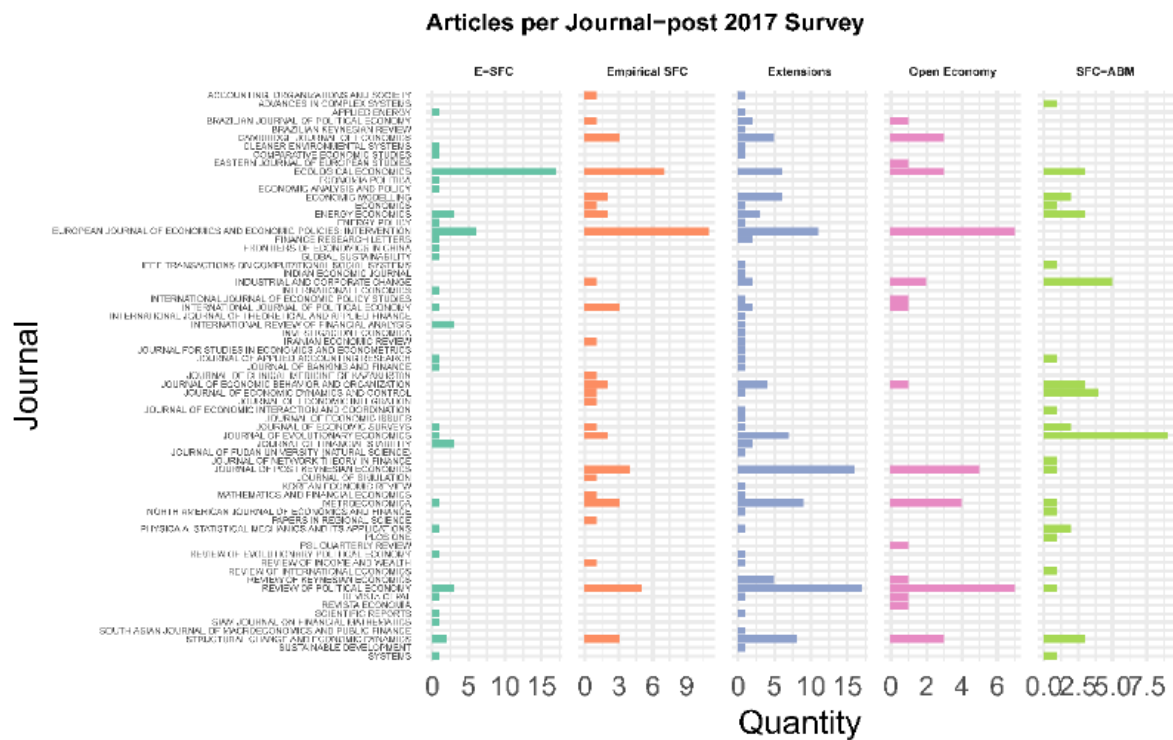
Source: own elaboration

Figure 11. Articles per Category, Post-2017



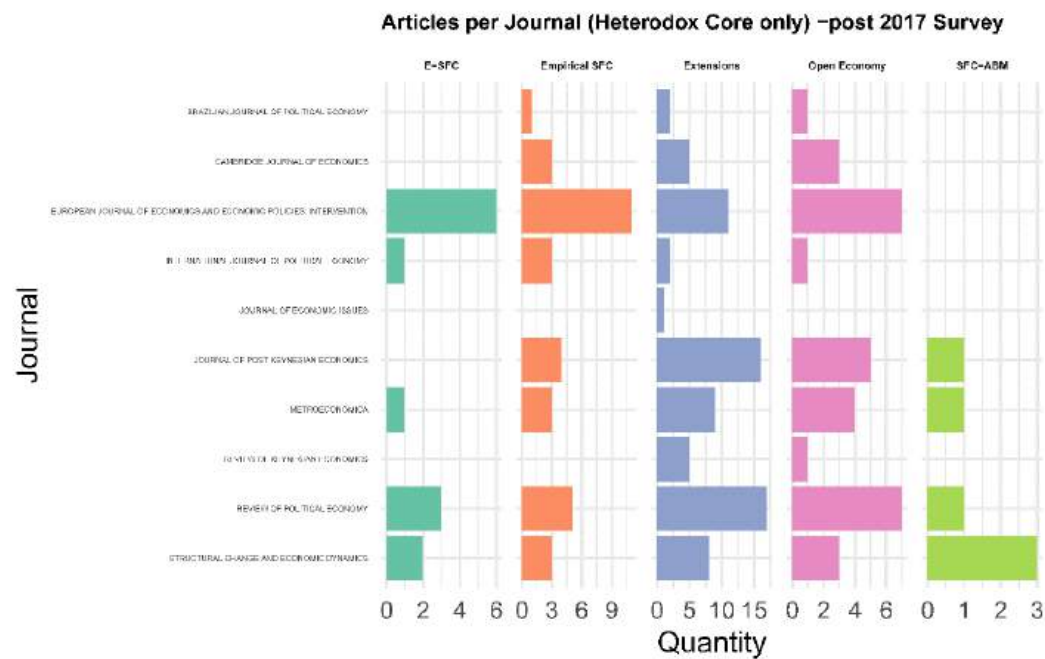
Source: own elaboration

Figure 12. Articles per Category, Post-2017



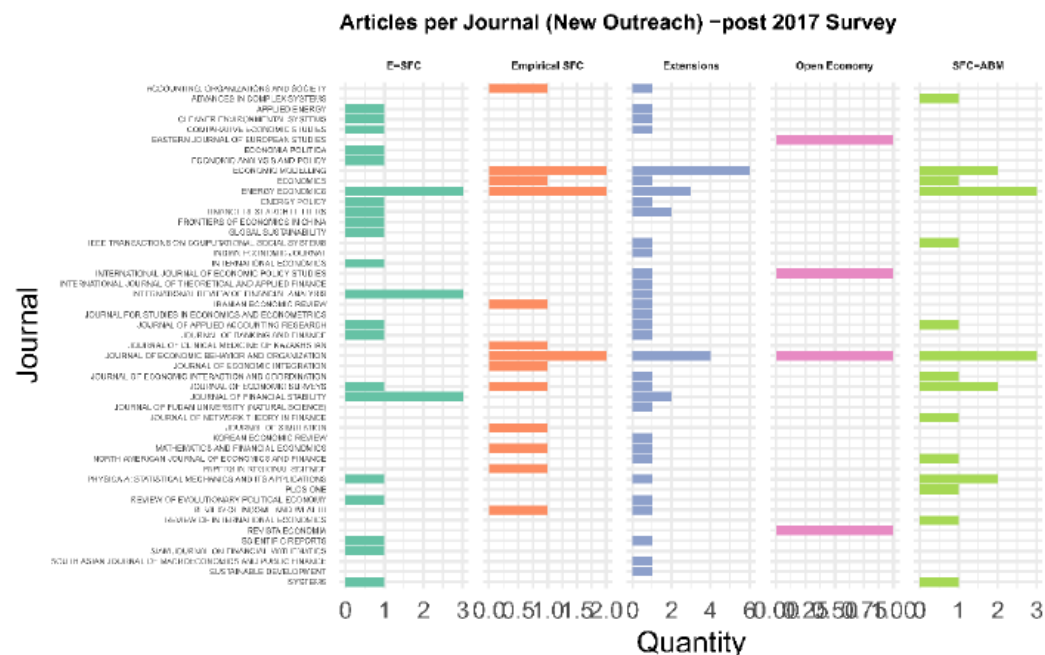
Source: own elaboration

Figure 13. Articles per Journal (Heterodox Core only), Post-2017



Source: own elaboration

Figure 14. Articles per Category (New Outreach), Post-2017



Source: own elaboration

Taking the publication of the survey by Nikiforos and Zezza (2017) as a structural break, it is possible to observe that, prior to 2017, SFC publications were largely concentrated in two main journal groups, with the heterodox core being the most prominent outlet (Figure 9 and Table 3). The early phase of the literature was initially dominated by the regular issues of the *Economic Policy Review*, while journals such as the *Cambridge Journal of Economics*, the *Journal of Post Keynesian Economics*, *Metroeconomica*, and the *European Journal of Economics and Economic Policies: Intervention* gradually gained momentum in the aftermath of the Global Financial Crisis, with *Intervention* emerging as the strongest contributor in that period.

In the post-2017 phase, the publication landscape becomes more diversified while still maintaining a strong presence in the heterodox core (Figure 11 and 12). New thematic areas emerge more clearly, notably development and sustainability journals (in particular *Ecological Economics*), as well as behavioral and evolutionary economics outlets such as the *Journal of Evolutionary Economics*, the *Journal of Economic Behavior & Organization*, and *Industrial and Corporate Change*. The New Outreach category includes journals such as *Economic Modelling*, the *Journal of Financial Stability*, and *Energy Economics*.

In terms of the five thematic categories, the heterodox core remains the primary dissemination hub for Empirical SFC, Extensions, and Open Economy models, and to a lesser extent for E-SFC and SFC-ABM approaches (Figure 13). Conversely, the latter two categories have played an important role in expanding the literature's outreach, alongside the Extensions group. E-SFC has been particularly important in fostering links with development and sustainability journals, while SFC-ABM has contributed to the diffusion of the literature into behavioral and evolutionary economics outlets.

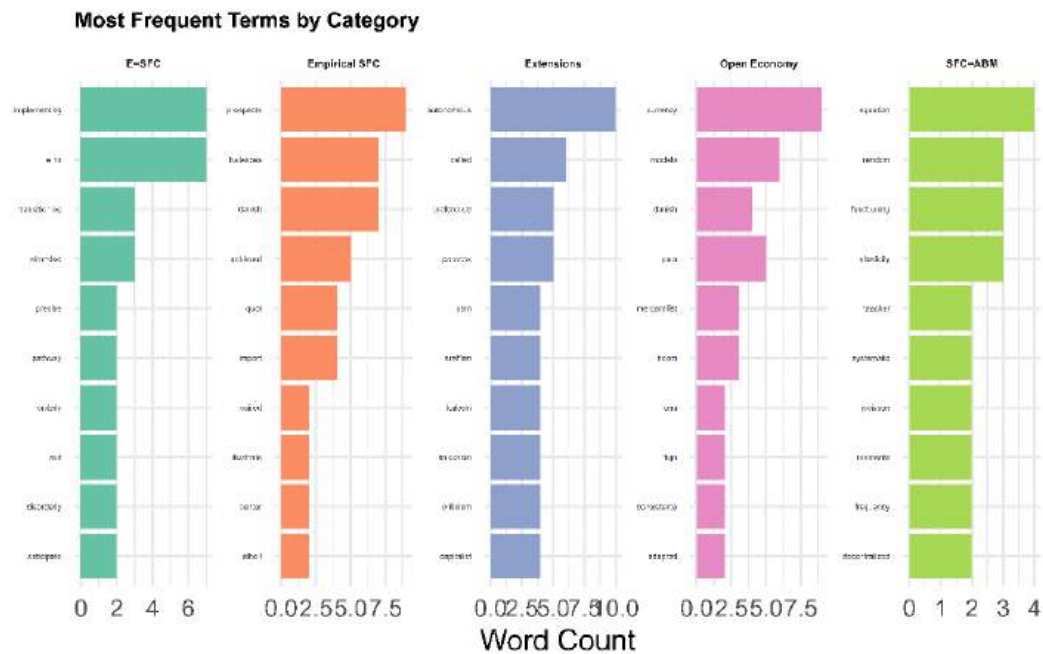
Focusing on the heterodox core journals, further evidence highlights the central role of *European Journal of Economics and Economic Policies: Intervention* in disseminating contributions across almost all thematic groups, with the exception of SFC-ABM. This is closely followed by the *Review of Political Economy* and the *Journal of Post Keynesian Economics*, and, to a lesser extent, *Structural Change and Economic Dynamics* and *Metroeconomica*. Overall, 10 out of the 14 journals in this category have published at least one contribution related to SFC models.

Finally, the Interdisciplinary and mainstream outreach category reveals a highly diversified landscape in terms of publication venues and disciplinary openness. Across all thematic groups, SFC research has expanded into 49 additional journals (Figure 14), with a small set of recurrent outlets standing out, including the already mentioned *Economic Modelling*, *Energy Economics*,

and the *Journal of Economic Behavior & Organization*. Notably, this expansion includes a growing presence of regionally oriented journals, an increasing number of outlets focused on environmental and ecological issues, and journals oriented toward mathematical modelling and simulation approaches.

3.3. Network Analysis

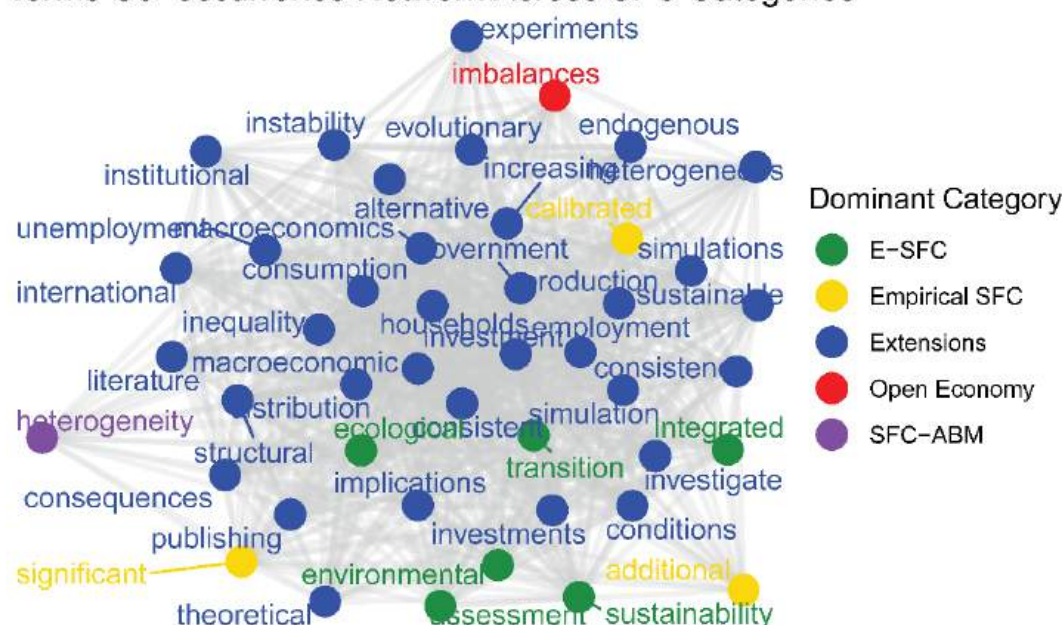
Figure 15. Terms Occurrence by Category



Source: own elaboration

Figure 16. Terms Co-Occurrence

Terms Co-occurrence Network Across SFC Categories



Source: own elaboration

The joint analysis of the most frequently used terms and the network of co-occurrences (Figures 15 and 16) allows us to track the recent evolution of Stock-Flow Consistent (SFC) research and to explore patterns of thematic cross-fertilization. The evidence suggests, once again, that the SFC literature is configured as a dynamic system of expanding knowledge, characterized by the interaction between consolidated cores and emerging frontiers. Given that several entries did not report metadata for keywords or abstracts, the search was extended to include titles, while duplicate term occurrences were removed to avoid double counting. For the network analysis, only the top 20 terms were retained for readability, although a more densely populated network is reported in the appendix.

The most frequent terms by category in publications from 2017 onward confirm the trends outlined above. In particular, terms such as implementing, transitioning, and stranded reflect a growing concern with the assessment of climate-related and transition risks, as well as the increasing use of tools designed to analyze these dynamics (Monasterolo et al. 2022; Dafermos and Nikolaidi 2021b; Moreno et al. 2024; Nalin et al. 2024; Jackson and Jackson 2025). Similarly, empirical SFC models retain core features related to short and medium-term scenario analysis, as reflected in terms such as prospects and balances. This pattern is largely driven by follow-up studies to Godley (1999) at the Levy Institute, which analyze the US, Greek, and

Italian economies (Papadimitriou et al. 2025; Papadimitriou, Yajima, and Zezza 2025; Zezza 2025), alongside an increasing number of contributions addressing the Danish economy in recent years (Byrialsen 2026).

The core group, unsurprisingly, includes numerous contributions linking SFC analysis with broader heterodox traditions, particularly Post-Keynesian economics. In this context, one can observe strong cross-fertilization with Sraffian literature, especially contributions focused on the supermultiplier (Mandarino, Dos Santos, and Macedo E Silva 2020; Teixeira and Petrini 2023), alongside analyses of autonomous demand. This forms part of a broader debate on closure rules in Post-Keynesian growth models (Nikiforos 2018; Da Costa Oreiro, Da Silva, and Santos 2020; Teixeira and Petrini 2023; Carnevali et al. 2024), as well as on debt-led consumption regimes (Di Domenico, Ciaffi, and Romaniello 2024; Carnevali, Ruggeri, and Passarella 2024).

The open economy cluster reveals another expected pattern, namely a strong focus on currency dynamics, export-led growth strategies, and cyclical (boom–bust) behavior. A notable emerging trend is the increasing presence of non-English contributions, particularly in Spanish, reflecting a growing interest in small open economies, especially in Latin America (Nalin et al. 2024; Lage, Romero, and Villarreal 2023; Nalin and Yajima 2022). Of particular interest is a subset of studies on dollarized economies and the dollarization process itself (Llerena Sarsoza 2022; Fernandez 2017; Llerena Sarsoza, 2025; Llerena Sarsoza and Pallasco 2026), consistent with earlier contributions in this literature (Izurietia 2003).

Finally, the SFC-ABM strand is characterized by recurring terms reflecting efforts to model heterogeneous agents and interaction dynamics, alongside increasing methodological and computational sophistication (Kremer et al. 2025; Botta, Caverzasi, and Russo 2024; Coccia and Russo 2025).

Turning to the network of keyword co-occurrences for the full sample, it is evident that terms associated with the core category occupy the most central positions. In line with the results discussed above, both empirical and ecological SFC-related terms display increasing centrality within the network. By contrast, the ABM and open economy clusters appear more peripheral and less densely connected; however, this does not imply a decline in relevance. As shown in Figure X in the Appendix, these clusters have played a crucial role in the development of the literature.

Overall, the results suggest that the SFC approach is evolving from a framework primarily

centered on accounting coherence toward a broader paradigm capable of representing the economy as an interconnected system of financial, real, and biophysical flows. This evolution is particularly relevant in the context of contemporary challenges such as financial instability, structural inequality, and climate change, where conventional macroeconomic approaches often face significant limitations.

In this sense, the SFC framework is consolidating its position not only as an alternative theoretical approach within heterodox macroeconomics, but also as an integrating platform linking diverse research areas, from ecological economics to complexity economics. Its future development will depend largely on its ability to deepen this integration, broaden its institutional base, and further develop empirical applications capable of addressing real-world economic problems across different contexts.

4. CONCLUSIONS

This paper has examined the evolution of the literature on Stock-Flow Consistent (SFC) models through a bibliometric analysis of publications produced between 1975 and 2026. The results show that the field has moved from a relatively small and specialized body of work into a broader research area characterized by increasing publication activity, methodological diversification, and wider diffusion across journals and research communities. This development can be understood, to a large extent, as the result of the dynamic interaction between research communities that have progressively shaped the thematic, methodological and institutional architecture of the field.

The expansion of the literature became particularly visible after the Global Financial Crisis and accelerated further after the publication of the survey by Nikiforos and Zezza (2017). In recent years, this growth has been especially associated with empirical SFC models, ecological SFC applications, and SFC-agent-based models, as well as with a growing number of contributions that combine more than one research area.

The findings also indicate that the five categories identified by Nikiforos and Zezza (2017) (extensions of the core SFC framework, open-economy models, empirical SFC models, ecological SFC models, and SFC-agent-based models), remain useful for organizing the field. However, the boundaries between these categories have become increasingly porous. The co-occurrence of categories and keywords suggests that recent SFC research is marked by growing

cross-fertilization among research strands. In particular, empirical and ecological SFC models have become more prominent, while the core SFC framework continues to provide the accounting and theoretical structure around which newer applications are organized.

The journal analysis shows that SFC research remains strongly rooted in heterodox economics outlets, especially those associated with Post-Keynesian and broader non-mainstream macroeconomic traditions. At the same time, the literature has expanded into a more diverse set of publication venues, including journals associated with ecological economics, energy, finance, complexity, applied modelling, and interdisciplinary research. This suggests that SFC modelling has not simply grown in volume, but has also broadened its institutional and disciplinary reach.

Far from constituting a linear process, the evidence suggests that the development of the SFC paradigm responds to a logic of scientific co-construction, where different academic groups contribute both to the consolidation of a common theoretical core and to the expansion of their analytical frontiers. At its base, the SFC approach is articulated around a foundational community that establishes the principles of accounting consistency between stocks and flows, which provides a common language for the field and acts as an organizing axis for multiple research trajectories. The evolution of the paradigm has therefore not implied a break with this theoretical core, but rather its extension to new problems, including financial instability, distributive inequality, ecological sustainability, and economic systems characterized by heterogeneity, nonlinearities, and emergent dynamics.

The interaction between communities has facilitated the incorporation of approaches that expand the analytical capacities of the paradigm. The integration of ecological SFC models and SFC-ABM hybrid models reflects the influence of complexity economics, allowing to represent economic systems characterized by heterogeneity, nonlinearities and emergent dynamics. This process does not imply a break with the theoretical core, but rather its strengthening, by maintaining accounting consistency as a structuring principle.

Moreover, we find evidence that the SFC community has played a pivotal role in expanding the reach of heterodox and non-mainstream economics across a broader set of publication outlets. At the same time, in the past decade, SFC frameworks have been increasingly adopted by scholarly communities to shape debates on heterodox macroeconomic issues, thereby reinforcing their centrality within this wider research agenda.

Several limitations should be acknowledged. First, the corpus depends on the coverage of

Scopus and Web of Science, which may underrepresent books, book chapters, working papers, institutional reports, and publications in regional or non-English-language outlets. Although expert-guided manual screening was used to reduce this limitation, this procedure may introduce selection bias. Second, the classification of publications into thematic categories relies on keyword matching and manual validation, which may generate classification errors, especially for papers that combine several topics or use terminology inconsistently. Third, some records contain incomplete metadata, particularly with respect to abstracts, keywords, affiliations, or document type, which can affect the results of the bibliometric and co-occurrence analyses. Fourth, language bias may remain, since English-language publications are more visible in international databases and bibliometric tools. Fifth, the corpus combines peer-reviewed journal articles with books, chapters, policy reports, and other forms of grey literature. This choice is justified by the historical development of the SFC field, but it also creates ambiguity when comparing publication types and outlets. Finally, co-occurrence analysis captures patterns of association among terms, but it cannot by itself establish theoretical influence, causal relationships, or the substantive quality of individual contributions.

Future research could extend this analysis in several directions. A citation-network analysis would make it possible to identify the most influential contributions and trace intellectual lineages within the SFC literature. A co-authorship analysis could help map the research communities and collaborative networks that have shaped the field. Further work could also examine the institutional and geographical distribution of SFC research, including the role of universities, policy institutions, central banks, development agencies, and research centers. Another promising avenue would be to compare the evolution of SFC modelling with related literatures, such as DSGE modelling, ecological macroeconomics, agent-based macroeconomics, and integrated assessment modelling. Finally, future studies could improve replicability by using open bibliometric data, publishing the classification dictionary, and making the cleaned corpus and code available for further research.

Overall, the evidence suggests that SFC modelling has evolved from a specialized accounting-consistent approach into a broader research platform within heterodox and applied macroeconomics. Its development has been shaped by the interaction between a stable theoretical core and expanding applications to financial instability, distributional dynamics, open-economy constraints, empirical policy modelling, and ecological transition. The future relevance of the SFC approach will depend on its capacity to deepen these interactions, improve empirical implementation, and continue engaging with economic challenges that require an integrated treatment of real, financial, and environmental dynamics.

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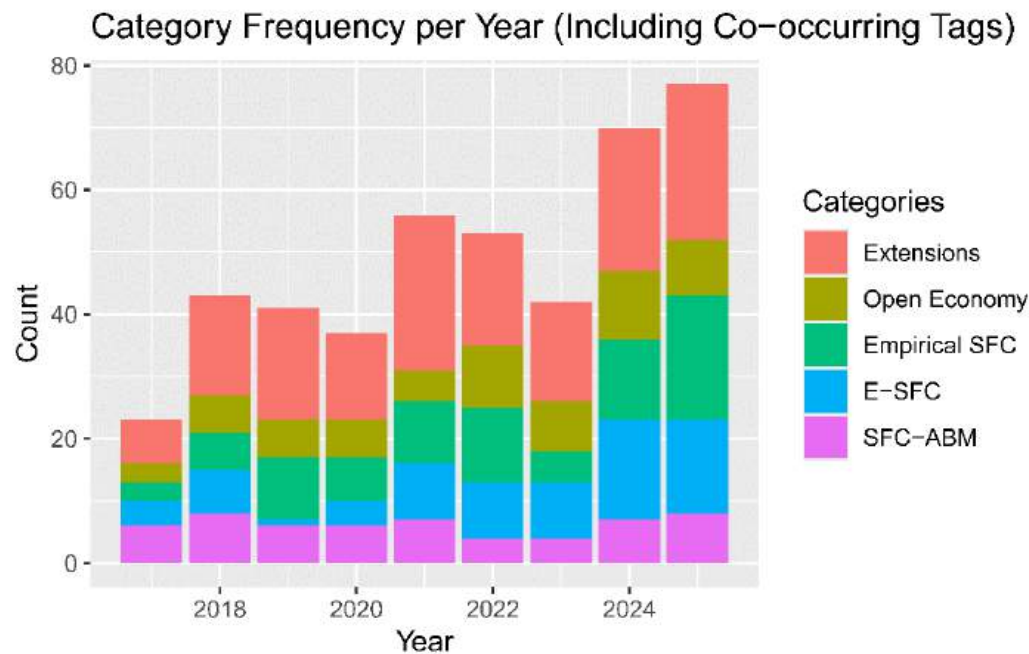
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APPENDIX

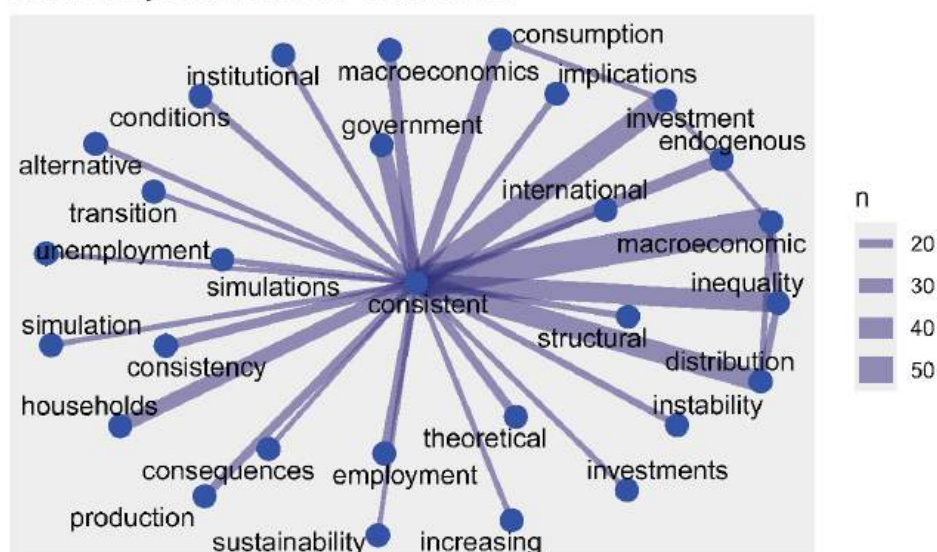
Figure 17. Category Frequency per Year



Source: own elaboration

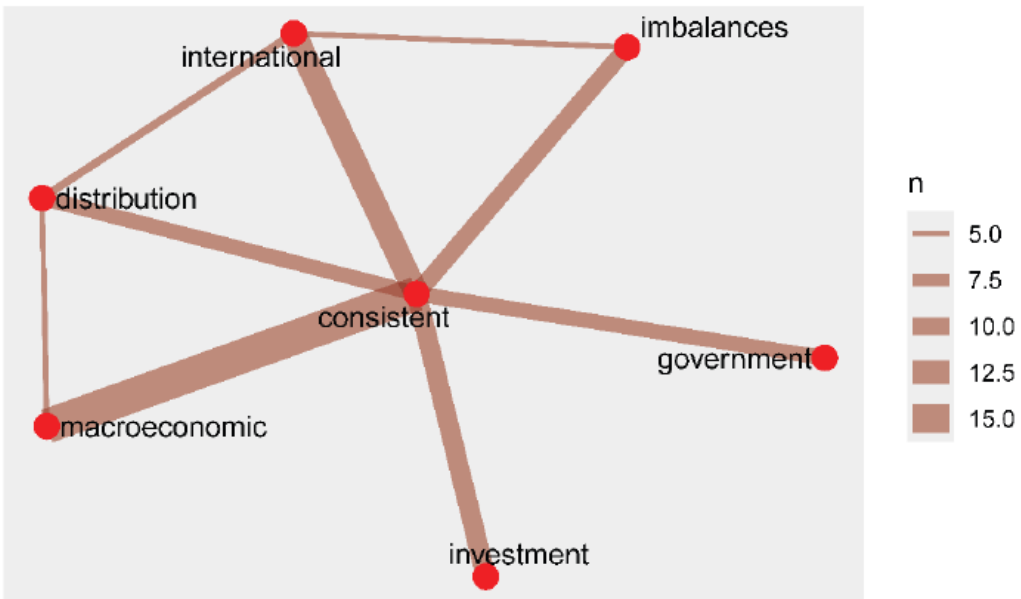
Figure 18. Terms Occurrence for Extensions

Most Frequent Terms for Extensions



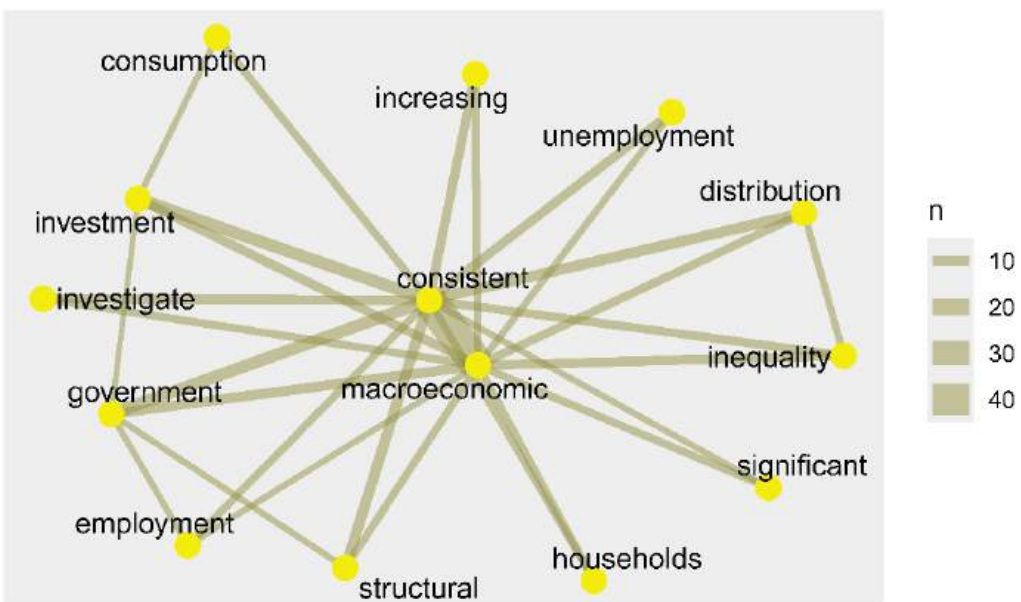
Source: own elaboration

Figure 19. Terms Occurrence for Open Economy
Most Frequent Terms for Open Economy



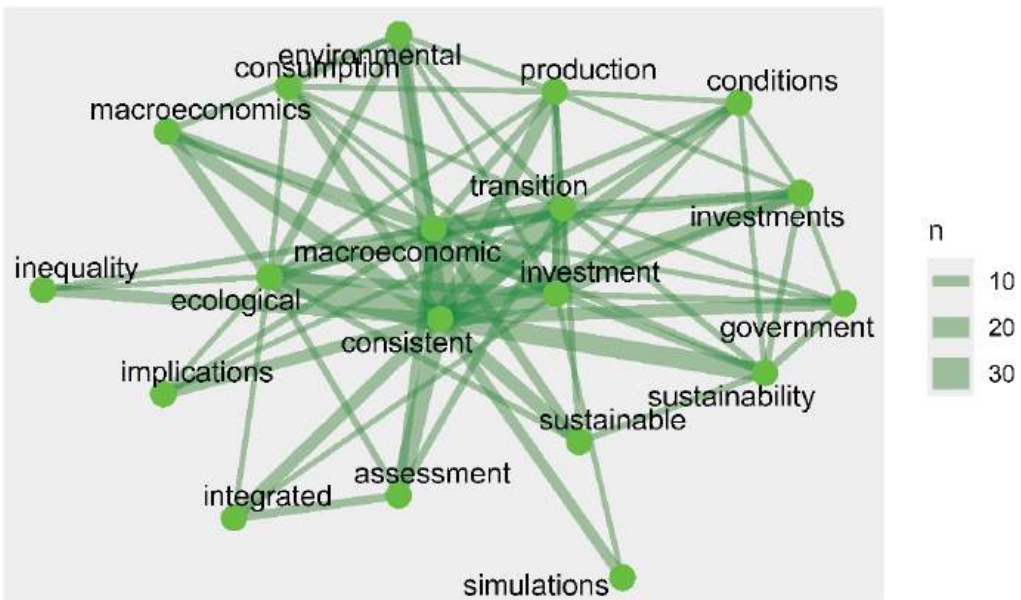
Source: own elaboration

Figure 20. Terms Occurrence for Empirical SFC
Most Frequent Terms for Empirical SFC



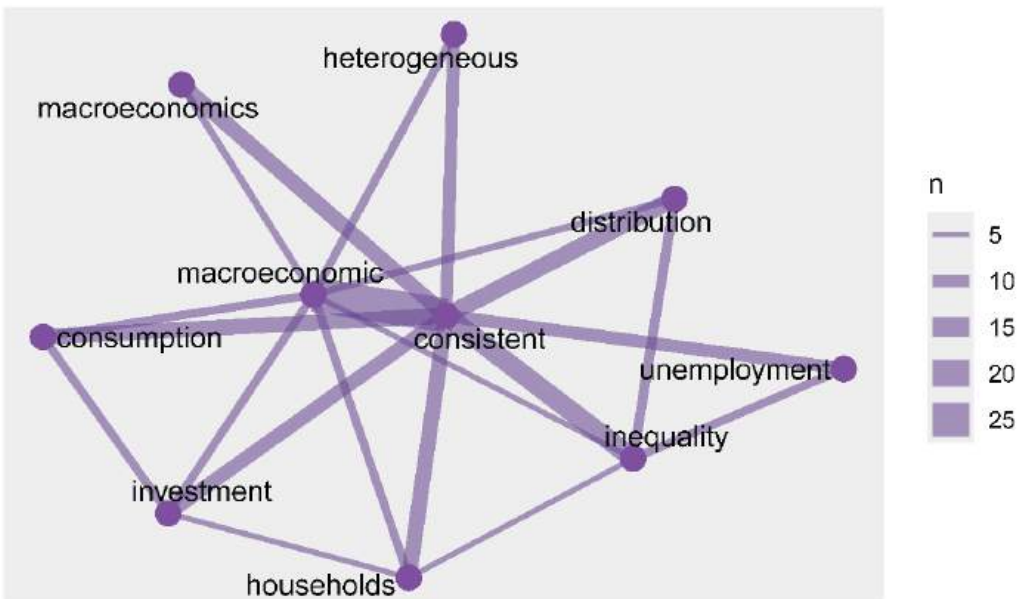
Source: own elaboration

Figure 21. Terms Occurrence for E-SFC
Most Frequent Terms for E-SFC



Source: own elaboration

Figure 22. Terms Occurrence for ABM-SFC
Most Frequent Terms for ABM-SFC



Source: own elaboration

Keyword Co-occurrence Network Across SFC Categories



Source: own elaboration