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Balancing excellence and diversity in economics: rethinking research-funding allocation in the age of mainstream pluralism

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Abstract
This paper offers a qualitative discussion about the possibility of achieving a more balanced relationship between excellence (via meritocracy) and pluralism (via diversity) in the allocation of public funding in economic research. The historical and methodological transformations that have shaped the discipline call for abandoning a strict meritocratic approach to funding in favour of supporting more varied research projects that still meet high standards of scientific research. Such an approach would help avoid distorting the endogenous evolution of economics, encouraging the development of new alternative research programs and fields alongside the traditional mainstream orthodox neoclassical perspective. Accordingly, we argue that the historical and methodological evolution of a discipline should be considered among the possible criteria policymakers adopt for funding research allocation. To support this argument, we first examine how mainstream pluralism has progressively counterbalanced economic imperialism, thus calling for a more inclusive definition of meritocracy that fosters major diversity also in funding allocation. We then offer a Schumpeterian interpretation of advantages and limitations of both strict meritocratic and pluralistic approaches to funding. The paper concludes with some policy recommendations to promote diversity in research funding as a means to reduce inequalities in academic contexts, particularly within the so-called "dismal science".

Keywords Diversity · Meritocracy · Pluralism · Research funding · Schumpeter

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1 Introduction

Excellence and diversity (in turn, meritocracy and pluralism), represent two distinct, but interacting dimensions. Thought as a measure of progress, excellence is typically grounded in the "ability plus effort" formula that promotes fairness, justice, and social cohesion in most advanced economies (Allen, 2011). Conversely, in the famous satirical tale *The Rise of Meritocracy 1870–2033*, Young (1958) triggered a thought-provoking analysis of a meritocratic society in which meritocracy became a source of persistent socioeconomic inequalities. Often recognized as a *necessary evil* in the pursuit of distributive goals, meritocracy spurred hectic competition that undermined the reach of the aims above. However, Young's analysis was focused on a strict definition of meritocracy that often persists in the most varied fields of socioeconomic realities. Instead, more inclusive definitions of excellence and meritocracy can promote diversity and pluralism, as well as more inclusion and justice (Konrad et al., 2021), moving beyond the idea of meritocracy as a pendulum swinging "too far, or not far enough". In other words, what is truly needed is a more balanced relationship between diversity and meritocracy to advance both pluralism and research quality. Among the possible areas to discuss the joint impact of excellence and diversity and the importance of a more balanced relationship between them, we choose that of research funding allocation dynamics.

In the knowledge-based economy, the emphasis on science and innovation as key to wealth and prosperity commit to a significant increase in the share of GDP devoted to R&D (Borsato & Lorentz, 2025; Edler & Fagerberg, 2017; Foray et al., 2012; Mowery et al., 2010). Research policy frameworks have evolved accordingly, introducing well-defined funding schemes and performance-based evaluation systems (Martin, 2003; Hicks, 2012; Wilsdon et al., 2015). As Aagaard et al. (2021, p.1) observed, "research funding is an important factor for public science. Funding may affect which research topics get addressed, and what research outputs are produced." In this regard, we observe, on the one hand, an increasing variety of research initiatives across countries, for instance, mission-oriented research (e.g. Horizon Europe's NetZeroCities), Indigenous-Led research in Canada, Research for Inclusive Development in South-Africa, Community-based research in Brazil, just to name a few; on the other, however, the last decade has also seen "increasing use of large centre grants to promote research, along with increases in the size of other funding forms, such as project grants" (Bloch & Sørensen, 2015, p. 2).

In general, total R&D investment has grown, as shown by UNESCO data: R&D expenditure as a share of GDP rose from 1.72% in 2015 to 1.95% in 2022. In many countries, however, governments have even at least doubled their R&D spending in this latest decade, as well as the amount of researchers per million inhabitants notably increased in many regions (UNESCO, 2025). Europe, Eastern-South Asia, and North America are among those areas which manifested higher increases in R&D intensity in terms of GDP. However, regional disparities remain: for instance, developing regions experience slower or stagnant growth in R&D intensity. Meanwhile, the global research community has expanded considerably, resulting in growing competition among scholars and institutions (Edwards & Roy, 2017). "Eventual increases in the relative share of funding devoted to larger grants may have distributive con-

sequences, resulting in a greater concentration of resources among a smaller number of researchers" (Bloch & Sørensen, 2015, p. 2). This trend consolidates strict meritocratic dynamics: significant funding is often awarded to a small élite of researchers or institutions, thereby narrowing diversity and pluralism within the scientific system (Fortin & Currie, 2013; Hicks, 2012).

Despite the potential variety of different national initiatives for scientific research, in many cases, significant funds are awarded to a small number of researchers, consolidating the aforementioned strict meritocratic dynamics, in turn, reducing pluralism and diversity in scientific research, as a result of these policies' implementation. It is common that specific approaches and fields easily obtain higher funding compared to others due to well-defined epistemological, institutional, and systemic factors. Firstly, there are institutional path-dependence and reputational effects because some specific fields (and related scholars that belong to certain research communities) have also stronger institutional affiliations and networks to have access to the funding system (David, 2007). In turn, this phenomenon leads to a cumulative advantage, the so-called "Matthew effect", for which well-funded areas usually get more funding. Secondly, there are epistemological bias for which peer reviewers often belong to those same dominant paradigms in a specific discipline, reinforcing the authority and scientific rigour of the orthodoxy (for instance, this is what is happening in economics, where mainstream orthodox neoclassical and quantitative approaches are privileged in funding over heterodox and/or qualitative perspectives, see Corsi et al., 2014). Furthermore, bias might also be associated with the gender and race of the project applicants (Van den Besselaar & Mom, 2022), so white male researchers still can be advantaged to be funded in some contexts. Thirdly, there are policy alignments for which specific fields and research programs are closer to policymakers' main goals (e.g., economic growth, innovation, and efficiency), often attracting funding more easily (Bracco et al., 2015). Last but not least, disciplinary boundaries. In our work, we will prioritize this systemic factor because heterodox research communities are often marginalized in funding, as well as in the production of high-quality research output, still being considered a "niche," threatening pluralism and diversity in scientific disciplines (Lee & Elsner, 2010).

Funding allocation often represents a strong incentive that can also influence scholars' preferences and the methodology they adopt, including their career trajectories, in choosing a specific field or research program over another within the same discipline. This phenomenon is even more marked when funding is scarce or highly competitive. More specifically, funding allocation influences research choices through: on the one hand, strategic alignment with the priorities of the funding agency, but also methodological adaptation to the prevailing research methods and tools for having more credibility to reviewers (Stephan, 1996); on the other hand, field migration towards better-funded research areas, especially among early-career researchers. This epistemic change represents a shift from curiosity-driven topics to instrumental/funder-aligned goals (Whitley, 2000). Conversely, scholars may be discouraged from pursuing fields and research programs that consistently receive less funding. In this sense, the lack of incentives can mirror broader social dynamics: as Andre (2025, p. 773) notes, "a person growing up with few opportunities and incentives to work hard might respond by exerting little effort. Likewise, minorities who

experience discrimination may be discouraged from working hard." A rigid interpretation of excellence and meritocracy, narrowly defined by dominant paradigms, risks reinforcing these dynamics within academia. It may inadvertently reduce diversity in research agendas, ultimately undermining the quality and innovativeness of underrepresented research fields.

It is not a case that, in this last decade, empirical works increasingly question strict meritocratic approach (Bloch & Sørensen, 2015; Cockburn et al., 2018; Klinger et al., 2022). In this direction, an always broader body of evidence looks at *diversity* as a further vehicle to improve research impact and quality (Cimini et al., 2014) where "impact is measured with the aid of citations collected by papers, while quality is determined by the judgments expressed by peer reviewers." (Franceschet & Costantini, 2010, p. 1) In this context, diversity denotes a vast ensemble of analyses characterized by different methodological approaches, distinct from *plurality*, which emphasizes the *quantity* of analyses within a well-established approach. Relatedly, the key to sustaining impact and quality lies in funding smaller and diversified projects -compared to those usually funded when strict meritocracy/excellence criteria prevails among policymakers- to guarantee the variety of research and economic structures (Borsato & Lorentz, 2025).

Based on the recent criticisms of the strict meritocratic distribution of most research funding, this paper offers a qualitative discussion to support the funding of more varied research projects that also includes high research quality, rather than systematically funding certain fields or research programs, privileging the specific case of economic discipline. Indeed, "diversity and excellence reinforce each other rather than contradict one another" (Ghosh, 2012, p. 350). The novelty of our approach is to consider as a starting point the historical and methodological evolution of a discipline—in this case, economics- for identifying new criteria for funding allocation. For this purpose, we adopt a twofold perspective: on the one hand, we explore the evolution of economics based on a historical and methodological approach (Ambrosino et al., 2024a, 2024b, 2025; Cedrini et al. 2026); on the other hand, we discuss the advantages and limits of funding mechanisms that consider excellence and diversity as a trade-off, instead of two elements that should coexist for high quality and diversified research output, as we suggest in our proposal, also with the lens of the evolutionary approach to innovation and technological change (Dosi, 2023, Martin, 2016; among others).

We stress two caveats. First, we adopt a qualitative perspective to discuss the specific evolution of economic discipline, advocating in turn for a more balanced relationship between excellence and diversity in research funding. This more balanced relationship will help avoid a strict meritocracy in favor of an inclusive notion of meritocracy, which can combine "high-quality research alongside epistemic diversity", rather than just excellence. This criterion would better respect the current state of economic discipline, which also includes a certain degree of pluralism. At the same time, policymakers should not fund low-quality projects, although they contribute to a certain degree of variety in the discipline. High-quality research should always be a mandatory requirement for accessing funds. Second, we intentionally leave apart data analysis, so rich in the literature, to offer an alternative view on a further possible criterion that policymakers might adopt to allocate funds, among

other quantitative ones. Furthermore, we focused on public research funds instead of private ones because pluralism, achieved through diversity, is one possible root for policymakers to reduce persistent inequalities in the academic world. Indeed, "meritocracy is not the friend of equality that it appears to be. To the contrary, meritocracy today functions less as an alternative to inequality than as its primary justification" (Sandel, 2021, p. 4). At least, this is what happens when strict meritocratic definitions are adopted. In this direction, a qualitative reading might be interesting and deserves equal attention from economists and policymakers, as economics differs from other social sciences in its evolutionary trajectory (Stephan, 1996; Dosi, 2024).

Economics, indeed, has gradually moved from an *imperialistic* condition (e.g., the neoclassical approach extended over other social sciences, limiting variety in the approaches in favour of the unity of the discipline) towards a mainstream *pluralism* characterized by the co-existence of the neoclassical core with the birth of new alternative research programs and/or fields that significantly deviate from its assumptions (Cedrini & Fontana, 2018). This process is gradually favouring not only pluralism but also fragmentation in economics (Knudsen, 2003; Ambrosino et al., 2025), questioning its internal unity. Strict meritocratic allocation of research funds was effective during economic imperialism, based on a view of the discipline characterized by unity without plurality. However, this kind of allocation no longer suits the current status of economics.

This progressive evolution towards pluralism necessitates a shift in policymaking. To avoid a return to economic imperialism that contributes to persistent inequalities in the academic research context, contemporary mainstream pluralism calls for more diversity, also in funding. Distribution criteria based on greater diversity, also including high-quality criteria in research output, would benefit economics in terms of both quality and impact, as well as by increasing opportunities for further knowledge progress. Based on these issues, research topics and outputs depend not only on research funding, but also on the historical and methodological changes that interest a specific discipline. For these reasons, discussions around research funding should also be grounded in historical and methodological perspectives, not just focused on public policy decisions.

The paper is organized as follows: Sect. 2 is about the progressive historical and methodological evolution of economics from economic imperialism to mainstream pluralism; Sect. 3 analyses and compares orthodox and heterodox perspectives on the identity of economics in terms of monism and/or pluralism, alongside possible research funding dynamics associated to each this view. In Sect. 4, we adopt a Schumpeterian lens to discuss research funding allocation, privileging the respective advantages and limits related to diversity and concentration. Finally, some concluding remarks together with a discussion of policy measures to be implemented -also including the possible obstacles- for a more balanced relationship between excellence and diversity in research funding.

2 From economic imperialism to mainstream pluralism: a historical-methodological overview

The literature suggests that economics is subject to what Davis calls a "discipline definition paradox". According to this paradox, economics should be defined by the disciplinary relationships it weaves with other social sciences because this is "what makes it relatively distinct and different from other disciplines"(Davis, 2019, p. 410). The epistemological role of disciplinary relationships is not limited to identifying the differences between economics and other social sciences but also to explaining how disciplinary relationships shape the disciplinary boundaries of the discipline involved (Davis, 2022; Dogan & Pahre, 1989).

Historically, economics has been characterized by insularity and un-socialness compared to other sciences (Ambrosino et al., 2024a, 2024b). Interestingly, Coase (1978) stressed that in the 1970s, economic disciplinary boundaries were also characterized by a "competition between disciplines"- as if they were competing firms- instead of "relationships between disciplines" that would be a virtuous example of cooperation among them. In this respect, Coase (1978) found a possible analogy between disciplinary boundaries and boundaries of empires, evoking the historian and writer Gibbon (1776) and the redefinition of the Roman Empire's boundaries under Augustus. In that context, Augustus recognized that "Rome, in her present exalted situation, had much less to hope than to fear from the chance of arms; and that, in the prosecution of remote wars, the undertaking became every day more difficult, the event more doubtful, and the possession more precarious, and less beneficial (Gibbon, 1776: (…), quoted in Coase, 1978, p. 202). Similarly, disciplines might extend or narrow their "realms" depending on competitive pressure- a dynamic particularly visible in the economics of the Seventies. Coase's imperial analogy thus evokes what later scholars would call "imperialist perspective": "The Roman Empire represents the strong and aggressive neoclassical core that progressively extends its boundaries towards the periphery." (Erasmo, 2022, p.130).

In these two latest decades, however, economics disciplinary boundaries have become more unstable than in the past (Massey, 1999), as the discipline has progressively opened to dialogue with other sciences, especially the humanities and the social ones. The periphery of economics is now populated by alternative research programs and fields that establish key disciplinary relationships —especially multidisciplinary and transdisciplinary ones (Jahn et al., 2012)— with other sciences (gender studies, ecology, technology, among many others) that strongly transform the discipline's identity (Erasmo, 2022). For this reason, historians of economic thought and economic methodologists are increasingly wondering about the evolution of economics, given that its disciplinary relationships with other social sciences have not always been the same over recent years. In this regard, Ambrosino et al. (2024b, 2025) identified three possible phases in the historical and methodological evolution of economics: economics imperialism, reverse imperialism, and mainstream pluralism.

While the three-phase framework — from economic imperialism to the advent of mainstream pluralism — offers a useful heuristic for understanding the evolution of economic discipline, one might note the risk of oversimplifying the complex process that is interesting economic discipline. In this respect, it is true that the transitions

between phases have not always followed a linear trajectory, and disciplinary change has varied significantly across institutional and national contexts (Marchionatti & Cedrini, 2017; Sinha & Thomas, 2019). For instance, despite recent pluralist openings, some elements of economic imperialism and methodological closure compared to other social sciences continue to persist (especially among the mainstream neoclassical orthodox communities), and many heterodox initiatives remain marginal or contested (Rothschild, 2008). However, some simplifications are often necessary in scientific inquiry, and we paid close attention to the distinction between developments occurring within the economic discipline and those emerging outside of it.

In this respect, the strength and relevance of Ambrosino et al. (2024b, 2025) analysis compared to other works on the topic, is that their works represent the ideal basis to consider two different but interrelated levels of enquiry about the evolution of economic discipline: on the one hand, what happens "outside the discipline," through the analysis of the disciplinary relationships (conflicts, cooperation or lack thereof) that economics has established with other social sciences across the three phases they identify; on the other hand, what happens "inside the discipline", focusing on its internal transformation. Regarding this second level of enquiry, they show how economics has shifted from a methodological monism (dominant during the period of economics imperialism) to a greater degree of pluralism with the rise of what they term "mainstream pluralism," marked by the emergence of diverse fields and research programs that deviate from the neoclassical core. It follows that, on the one hand, the neoclassical core is still alive and strong in the discipline; on the other hand, the advent of mainstream pluralism not only modified the internal organization of the discipline (making it less hierarchical and more fragmented), but also shaped the relationship economics establishes with other social sciences, no longer invading them but fostering virtuous multidisciplinary and transdisciplinary interactions that, in turn, reshaped the disciplinary boundaries of economics itself. Thus, Ambrosino et al. (2024b, 2025) offer a more dynamic view of economics, attentive to both its internal structure and its external interactions. Their work highlights how economics has undergone continuous transformations over the years, arguably more so than other social sciences. In this way, it is possible to better understand how economics is increasingly a more complex social science than it was in the past and funding allocations should change accordingly to this evolutionary process that interested the discipline.

More specifically, regarding the first phase of *economics imperialism*, Stigler (1984 p. 311) argued that "economics is an imperial science: it has been aggressive in addressing central problems in a considerable number of neighbouring social disciplines and without any invitations". For this reason, it is important to emphasize that economics imperialism refers to the expansion of the economics discipline into others, "invading" them through its leading theories and models, even to explain phenomena beyond its original domain. Meanwhile, the internal organization of the discipline was quite hierarchical, favoring the prominence of the mainstream neoclassical core over other possible methodological perspectives. Such imperialistic dynamics started working after WWII with scholars such as Becker, Down, Buchanan, Tullock, and Olson, which focused on domains traditionally deemed *outside* of economics (Maki, 2009). This process strengthened economics' theoretical core that was based

on the neoclassical paradigm (Dosi, 2023). This imperialist perspective implies that "competition between alternative approach[es] is typically followed by reunification under the aegis of a peculiar dominating perspective" (Ambrosino et al., 2024b, p. 3), namely the mainstream orthodox approach. This reunification effort derives from a sense of disciplinary unity where economics claims its superiority compared to all other social sciences. At the same time, this tendency toward imperialism has concerned not only the social sciences "invaded" but economics itself, with significant effort made by several mainstream neoclassical economists to promote methodological homogenization in response to the possible emergence of alternative approaches within economic discipline. This dual trend —external imperialism toward other social sciences (Fine & Milionakis, 2009) and internal homogenization against alternative perspectives compared to the mainstream orthodox ones (Hodgson, 2009; Lee, 2009)— is crucial because it laid the intellectual foundations for strict meritocratic funding schemes favoring mainstream orthodox communities, reinforcing the concentration of resources and epistemic authority (Fourcade et al., 2015; Mirowski & Nik-Khah, 2017).

This trend gradually *reverted* during the so-called second phase (reverse imperialism): according to Lazear (2000a, 2000b), economics - instead of "invading" other social sciences, as happened during economic imperialism- became, in a certain sense, isolated from them. Other scholars offered different interpretations: for instance, Davis (2016) and Crespo (2017) stressed that reverse imperialism represented a subsequent phase in the evolution of economic discipline where some new approaches within economics emerged, "importing" (instead of "exporting", like in economic imperialism) insights from other social sciences. Connected to this adoption of methods and techniques from other disciplines, reverse imperialism led to a two-fold consequence, namely a growing abstractness and generality of mainstream economics and an "unrecognized openness to outside interpretation that can compete it in an unintended and unexpected way" (Ambrosino et al., 2024b, p. 9). Thus, economics was characterised by higher abstractness that partially threatened its scientific rigour, in turn, weakening its identity. What all these readings of reverse imperialism have in common is the idea that, in this phase, economics became temporarily isolated compared to other social sciences. In this process, neoclassicism contributed to the insularization of economic discipline through a defensive, perhaps assertive, posture compared to other sciences (Davis, 2016). In particular, this dynamic is mainly related to the mainstream neoclassical core because some first alternatives to the leading economic approach (based on interdisciplinarity and/or multidisciplinarity) were already appearing in the periphery of the discipline, to create the conditions for the third phase of the evolution of the economic discipline, namely contemporary mainstream pluralism.

This third phase is probably the most relevant to the aim of this paper because it should represent the basis to change funding schemes. As in Cedrini and Fontana (2018):

> "[THE] co-presence of a variety of research programmes in today's mainstream and which significantly deviate from the neoclassical core. Connoted by the use of distinct theories and methods, such programmes are pursued by differ-

ent, often separate communities of researchers. A non-exhaustive list includes evolutionary game theory, behavioural, cognitive and experimental economics, neuroeconomics, agent-based complexity economics, new institutional economics and the capability approach" (p. 427).

These new research programs fuel exchanges and collaboration between economics and other social sciences (Dogan & Pahre, 1989) and challenge the shape and boundaries of the discipline (Ambrosino et al., 2024a). As previously discussed, economic imperialism led to an imperialistic attitude of economics with openness toward other sciences mainly to invade them (Barry et al., 2008), alongside with an internal methodological homogenization in favor of mainstream orthodox neoclassical approaches. Instead, mainstream pluralism implies openness towards other sciences, not for invading but also for cooperating with them to give origins to new alternative research programs (or even fields) that foster pluralism. These cooperative disciplinary interactions between economics and other natural and social sciences, indeed, are mainly interdisciplinary and emerge as a deviation from the standard neoclassical core[1]. In this regard, these interdisciplinary interactions often create a new inter-field research (Cat, 2017) that take "place not only in the framing of research problems and coordinating knowledge flows between fields, but also in the execution of research and the formulation and analysis of results." (Huutoniemi, 2010, p. 83). In this way, mainstream pluralism has promoted pluralism, but also a rising fragmentation in economics (Davis, 2019), raising concerns about coherence and communication among subfields. This is a condition that Davis (2024) defined as "fragmented pluralism". In these latter years, we observe to even stronger disciplinary relationships between economics and other social sciences- that is to say, also multidisciplinary and transdisciplinary exchanges- as an effect of the rising specialization in economics that mirrors fields and/or research programs that are more able to explore the complexity of the reality that surrounds us.

It is important to emphasize that multi- and transdisciplinary alliances with other social sciences often emerge from semiperipheral or peripheral — and often heterodox — alternative research communities rather than the mainstream neoclassical core. Thus, although economic imperialism and mainstream pluralism differ sharply, they are not entirely opposites: the neoclassical core remains strong and influential today, even as alternative programs proliferate within and around it. At the same time, two parallel dynamics are taking place, both "within" and "outside" the discipline. On the one hand, "outside" economic discipline, the potential imperialist tendencies toward other social sciences are increasingly being balanced by the willingness to establish interdisciplinary collaborations — primarily, though not exclusively, initiated by the heterodox periphery, favoring pluralism. On the other hand, "within" the discipline, new research programs born from this openness to collaboration are promoting greater pluralism and methodological diversity. This trend is gradually reduc-

[1] The first international conference on interdisciplinarity dates back to 1970 and was held in France with the significant co-sponsorship of the Organization for Economic Cooperation and Development (OECD) (Klein, 2010). This means that interdisciplinarity would be introduced in economics among the first disciplines.

ing the internal neoclassical homogenization that characterized the years of economic imperialism towards greater pluralism and diversity in research outputs, shifting from a monistic to a more pluralistic view of the discipline, as we will analyse in the next Section. To provide a summary and a comparison of the historical and methodological evolution of economic discipline, we provide a table that also outlines research funding dynamics associated with each of these three phases (Table 1).

The table shows how the history of a discipline and the criteria for funding allocation cannot be split because each historical phase had its methodological specificities, including in the dynamics of research funding allocation and vice versa. Conversely, Van Rinjsoever and Hessels (2011) stressed that the contemporary challenges related to health care, environment, and mobility are demanding innovative solutions from institutions, but also scholars. This complexity requires interdisciplinary research, like those offered by new research programs and fields that populate what Cedrini

Table 1 Comparative methodological overview of the three phases of the evolution of economic discipline in relation to public research-funding dynamics

Phase	Disciplinary relationships	Internal organization of the discipline	Epistemological attitude	Consequences for diversity and meritocracy	Typical public funding dynamics
Economic imperialism	Expansionism toward other social sciences, exporting its models and methods	Strongly hierarchical with a dominance of the neoclassical core	Internal methodological homogenization based on the mainstream orthodox neoclassical principles	Low diversity Path-dependence and reputational lock-in	Funding concentrated in mainstream, quantitative, large-scale projects Strict meritocratic evaluation
Reverse imperialism	Insularity with reduced dialogue with other disciplines	Increasing abstraction and internal fragmentation but limited methodological openness	Self-referential formalism; declining empirical and interdisciplinary engagement	Persistence of inequalities within research communities Reduced innovation capacity Limited incentives for interdisciplinary or heterodox research	Funding, often stagnant or reduced Resources still allocated to mainstream
Mainstream pluralism	Cooperative and integrative interactions with other social and natural sciences; rise of inter- and transdisciplinary research programs	More decentralized and fragmented; coexistence of diverse research fields (behavioural, evolutionary, complexity, etc.) alongside neoclassical core	Methodological pluralism; recognition of complexity and diversity in economic phenomena	Greater awareness of diversity–excellence complementarity Need for policy redesign to align funding with disciplinary evolution and epistemic variety	Potentiality for more balanced funding models, with the risk of excessive fragmentation

and Fontana (2018) defined as mainstream pluralism. Today, funding institutions often continue to apply strict meritocratic criteria that favor mainstream orthodox research groups, which tend to exhibit lower degrees of interdisciplinarity. This mismatch between the epistemic evolution of economics and current funding practices suggests that research policies should evolve accordingly. A funding model that recognizes the value of epistemic diversity and methodological openness would align better with the pluralistic nature of today's economics (Frey & Osterloh, 2015; Feller, 2017), ensuring that public investment in research reflects not only excellence but also the evolving complexity of knowledge production in the discipline.

In the next Section, we will introduce and compare the different understanding of disciplinary identity elaborated by orthodox and heterodox scholars in terms of monism and pluralism—from economic imperialism to contemporary mainstream pluralism—between opportunities and advantages, alongside showing how research funds dynamics have progressively influenced scholars in their view of the discipline.

3 Monism and/or pluralism? Orthodox and heterodox perspectives on the identity of the economic discipline based on funding allocation dynamics

We have already clarified how excellence and diversity, as well as meritocracy and pluralism, are distinct, but interacting dimensions in the previous methodological analysis. Instead, reasoning about a disciplinary identity in terms of a monistic or a pluralistic view is a more radical distinction. In this section, we first discuss the historical and methodological foundations of monistic views in economics, illustrating how dominant paradigms have shaped research interests and, in turn, how funding allocation has favored (or not) a monistic view of the discipline (Sect. 3.1). Subsequently, we offered a comparative analysis of pluralistic and monistic perspectives, highlighting the advantages, limitations, and institutional implications of different forms of pluralism (fragmented and engaged), particularly in relation to funding policies and knowledge growth (Sect. 3.2).

3.1 From a strict monistic view of economic discipline to the advent of pluralism

Monism has a context-dependent meaning, primarily when referring to the evolution of economics. Among its possible meanings, we might refer to monism when "a paradigm is becoming dominant against competing paradigms of science" (Beckenbach, 2018, p. 5). This kind of paradigm is also self-proclaimed to be representative of the entire discipline, to the detriment of other alternative paradigms, reflecting its epistemological monistic attitude (Dusek, 2008). More specifically, according to this view of knowledge, "there is a unified scientific method; only its fields of application are different. The monist view itself has many different and mutually incompatible variations. However, the typical advocate of methodological monism regards one particular methodology established in mathematized physics as the paragon of every empirical discipline, and therefore for economics also." (Dusek, 2008, p. 27). Thus, methodological monism implies monism regarding the scientific method and consid-

ers mathematized physics as the ideal benchmark for empirical disciplines, including economics. For those who endorse this perspective, such as neoclassical orthodox economists (Sylos Labini, 2016), this implies that empirical disciplines should be evaluated in relation to mathematized physics. For this reason, "Since neoclassical mainstream is monist, therefore the critique of monism is at the same time the critique of the method of neoclassical mainstream" (Dusek, 2008). Neoclassical monism is often associated with a non-pluralist and intolerant perspective by heterodox economists (Garnett, 2005).

Indeed, a monist and orthodox understanding of economics prevailed during economic imperialism, which was oriented toward unifying the economic discipline under neoclassical assumptions (in particular, rational choice theory) —the previously discussed methodological homogenization— often without accepting other approaches to analyze economic phenomena to avenge its power and prestige compared to other social sciences. During economic imperialism, the idea of monism as the dominant paradigm coincided with unity within the discipline. It was mainly (though not exclusively) defended by mainstream orthodox economists who relied on their strong knowledge of economic theory and models. In particular, "economics imperialism is a matter of a persistent pursuit to increase the degree of unification provided by rational choice theory by way of applying it to new types of explanandum phenomena that are located in territories that are occupied by disciplines other than economics" (Maki, 2002, p. 238). In this respect, the effort exists to "unify" the discipline under one prevailing paradigm, following the same approach of physical sciences (Dow, 2022). To some extent, this monistic (or unitary) conception of the economic discipline persists, mainly within mainstream orthodox neoclassical research communities, alongside a growing trend toward pluralism and fragmentation. It is a complex phenomenon.

Regarding this persistent monistic view of the discipline among mainstream orthodox neoclassical economists, there has never been an absolute rupture with the past (Garnett Jr. et al., 2010). Specific funding allocation dynamics also favor this view of the discipline. A possible illustrative case is that of national funding agencies in Europe: for instance, the European Research Council (ERC) allocates grants based mainly on perceived scientific excellence, which often favors researchers with strong prior publication records and affiliations in top-ranked departments, indirectly reinforcing the dominance of mainstream economics (ERC, 2022; Mongeon et al., 2016), in turn, monistic and orthodox view of the discipline. Similarly, national research councils in countries such as the UK (UKRI) and Germany (DFG) have historically allocated a significant portion of funding to established groups within dominant paradigms, resulting in concentrated funding patterns and limited epistemic diversity within the discipline.

While strictly meritocratic policies aim to reward excellence, they can inadvertently constrain methodological pluralism and diversity by underfunding emergent or unconventional research programs, particularly those that are heterodox. The result is "high quality research output without epistemic diversity". As shown by Thieme and Heise (2016), applications from heterodox economists in Germany have systematically faced disadvantages in obtaining third-party funding from the *Deutsche Forschungsgemeinschaft* (DFG), despite formal claims of methodological neutral-

ity. Similar institutional biases have been reported across Europe, where research evaluation systems prioritize metrics and publication outlets strongly aligned with the neoclassical mainstream (Ghilarducci et al., 2021). Consequently, heterodox and more pluralist research communities often remain underfunded, which can sometimes constrain epistemic diversity. As the "Association for Heterodox Economics" (AHE) pointed out, the incentive structures embedded in research assessment and funding frameworks often reinforce mainstream dominance, indirectly discouraging epistemic diversity within the discipline.

However, we live in an era of mainstream pluralism that tempered the internal organization of economic discipline compared to the years of economic imperialism. Now, the neoclassical core coexists with alternative research programs that diverge from its fundamental assumptions, weakening internal hierarchy and methodological homogenization. The coexistence of monistic and pluralistic views of economics can potentially generate tensions among different research communities over access to funds (Hermann & Mouatt, 2021). The possibility of conflicts is another reason, alongside the progressive internal diversification of economic discipline, to adopt criteria for research funding allocation that also include diversity with excellence. Furthermore, in contemporary mainstream pluralism age, monism is somewhat different from that of the past because economics is experiencing the so-called "applied turn" (Backhouse & Chérrier, 2017). In this sense, many neoclassical orthodox economists are shifting their approach from theory to practice and data, not differently from many contemporary heterodox economists. Some demand a shift towards empirical approaches to address the leading contemporary challenges in our society, such as the advent of AI and globalization (Mariotti, 2022). Among the possible strategies to address these issues, for instance, there is a need for a transdisciplinary alliance (à la Prigogine) between economics and engineering to reconcile pluralism without losing a unitarian view on the complexity of socioeconomic reality against contemporary fragmentation (Mariotti, 2021). A (radical) transdisciplinary alliance between economics and engineering would also be fruitful for policy purposes to improve the dialogue between practitioners and economists for elaborating more effective strategies to face the problems of contemporary society (Swann, 2021). At the same time, Hébert (2021) warned about the future risk of new imperialisms related to the economics-engineering nexus, if one of the two disciplines invades the other[2].

Apart from this forecast about the future of economic discipline, today, thanks to the "applied turn", the differences between orthodox and heterodox economists are decreasing, at least, in the research domain they analyse. So, this applied turn (or focus on empirical issues, instead of pure theory) is happening in the whole realm of economics, including the mainstream orthodox core. We therefore define this new neoclassical monism as an "applied monism" to distinguish it from the "theoretical monism" that characterized the neoclassical core during economic imperialism. In this context, however, mainstream orthodox economists still believe their approach

[2] Mariotti (2021) published a full paper in this journal on the historical and methodological evolution of the dialogue between economics and engineering, advocating for a new transdisciplinary nexus between these two disciplines to address contemporary socioeconomic challenges. The paper was so successful that a huge debate followed in the same journal. For more, see the issue 2021/4 of the *Journal for Industrial and Business Economics.*

is superior to non-mainstream and heterodox economic (and other social sciences) approaches. Strict meritocratic allocation in funding can strengthen this monistic view of economic discipline because these research communities are still the most funded. On the contrary, a more inclusive view of meritocracy in terms of "high quality research output alongside epistemic diversity" can weaken monistic views of the discipline, following the general evolution of the discipline.

In this respect, monism is not an argument that concerns only mainstream orthodox economists. Indeed, some heterodox economists have also argued for monism and unity from their own perspectives, although they are not driven by funding allocation criteria in doing so. For instance, De Langhe (2009) pointed out that "some heterodox scholars are claiming their approach is superior, like a paradigm warrior, and this kind of pluralism is not in line with real pluralism, but rather with monism" (De Langhe, 2009, p. 799). Today, some heterodox economists endorse this monistic claim- always in an applied sense, the so-called "applied monism" mentioned above- but it still appears more common among mainstream orthodox economists. In this regard, strict meritocratic allocation contributed to feeding this trend among mainstream orthodox neoclassical research groups.

We can conclude from this analysis around monism that this view of economic discipline certainly persists, both among mainstream neoclassical orthodox economists and some heterodox ones, but contemporary economists are increasingly endorsing a pluralistic view of the discipline. If monism seems to be an essential part of the "opposite" within the economic realm, respectively the neoclassical core and the heterodox periphery (Dobusch & Kapeller, 2017), the space for pluralism is represented by the same area where mainstream pluralism has flourished thanks to those research programs and/or fields who deviated from the neoclassical core (Cedrini & Fontana, 2018), but without pushing to be outside the "the citadel of economics", namely the periphery of economic discipline.

3.2 Pluralism versus monism in economics: a comparative framework

Our paper emphasizes the positive potential of pluralism and heterodox research programs. However, it is important to recognize that not all forms of diversity are equally constructive. The expansion of methodological and thematic variety within economics raises legitimate concerns about coherence, evaluative criteria, and comparability across research outputs. Without robust frameworks for assessing quality and impact, there is a real risk that increased diversity may lead to disciplinary fragmentation rather than a positive growth of knowledge. These caveats, however, do not undermine the relevance of considering disciplinary dynamics when shaping research funding policies. On the contrary, they reinforce the importance of also identifying qualitative criteria for adequately funding research projects based on a discipline's evolution, in this case, economics.

From a methodological standpoint, similarly to a purely monistic view, pluralism also entails advantages and limits. The main advantages of pluralism today include, on the one hand, a possible growth of knowledge within the economic discipline; on the other hand, a more effective communication "within" and "outside" economics (Lari & Maki, 2024). It is worth recalling that one of the leading characteristics of

these new research programs is their theoretical autonomy with respect to Lakatos' idea of unity in science (Worrall and Zahar, 2015). However, this autonomy should not be overemphasized. According to his view, a new research program arises when an accepted new methodological proposal, endorsed by academic communities, enables genuine growth of knowledge (Motterlini, 2002). In this case, Lakatos agreed with the proliferation of new research programs or fields, insofar as they foster such growth. This increasing methodological pluralism in economics calls for differentiated funding strategies that concretely enable diversity through adequate financial resources. However, Lakatos rejected what he termed "degenerating research programs"—namely, those that reached a saturation point, for which they miss any heuristic value for growing knowledge. Quantitative evidence confirms the diminishing marginal returns in knowledge when scientific funding is concentrated in the hands of the so-called "élite" (Mongeon et al., 2016).

Monism may lead to the slavish acceptance of degenerating research programs or fields for preserving unity within the discipline. Pluralism, instead, is more willing to accept not only the birth but also the decline of research programs or fields. For this reason, research programs or fields that are degenerating should no longer be funded. As Aagaard et al. (2020, p. 139) note, "a prerequisite for advances" in approaches, ideas, methods, paradigms, and theories is therefore systemic underpinning of diversity, originality, and risk-taking. Dispersal of funding among more individuals and groups is one way to secure this." Quantitative evidence already supports this view. At this point, we should distinguish between two different kinds of pluralism to identify which is the ideal one for a possible growth of knowledge for economic discipline and fosters effective communication "within" and "outside" economic discipline, namely "fragmented pluralism" and "engaged pluralism" (Davis, 2024; Cedrini et al. 2026). This same distinction might be adopted to discuss which pluralism should be promoted through public funding allocation based on the historical and methodological evolution of contemporary economic discipline. When discussing fragmented pluralism, we refer to a culture of live-and-let-live—where there is "growing space for people working on different topics, though with little communication across them" (Davis, 2024, p. 554). In other words, fragmented pluralism promotes diversity in academic research, but the little communication across research groups within and outside the discipline might lead to a potentially dangerous fragmentation that should be avoided to maintain consistency. Thus, an excess of pluralism can be a limitation for the discipline. More specifically, Knudsen (2003) argued that a discipline should avoid both the "fragmentation trap" and "unification trap", as each is potentially detrimental to the dismal science. The ideal balance lies halfway between unity and fragmentation. This balance might be found in "engaged pluralism" (Cedrini et al. 2026), which refers to an active dialogue among different research communities "within" and "outside" economics. A key feature of engaged pluralism is its ability to foster syntheses across different research traditions, enabling different approaches to interact constructively rather than merely coexist, as in the case of fragmented pluralism. These syntheses, however, do not imply a monistic view of the discipline. Rather, they preserve and promote diversity through the birth of new interdisciplinary research projects that are not antagonistic to one another but cooperate to foster the growth of knowledge. Based on engaged pluralism, a widen-

ing of knowledge can follow as an effect of dialogue between different academic communities (within economics) and between economists and other social scientists (outside economics). To foster this widening of knowledge, it would be helpful to fund many (perhaps, smaller) research projects that go beyond strict meritocratic dynamics, combining "high quality research output alongside epistemic diversity".

We might conclude this methodological discussion around these two kinds of pluralism, highlighting the main obstacles for their respective realization. First, fragmented pluralism, as previously discussed, may pose a threat to the discipline because fragmentation is as detrimental as excessive unity and can lead to inefficiency in the allocation of funding. Pluralism through diversity is essential; however, funding too many research projects with tiny grants may prevent them from fully developing their potential. Empirical work shows that very small or highly fragmented funding can limit the ability of projects to mature, reduce methodological robustness, and hamper the emergence of high-impact outcomes (Mali, 2017). Moreover, mainstream pluralism promotes diversity without necessarily fostering awareness among economists of the institutional and methodological implications of this challenge for the internal organization of the discipline.

Thus, one of the leading tasks of economic methodology should be to promote this awareness not only within each research community but across the various research communities engaged in economic inquiry. Last but not least, more relevant to the aim of this paper, monism, especially when grounded in claims of superiority of mainstream neoclassical approaches, persists partly because of strict meritocratic funding that consistently assigns huge resources to the same research groups, which become influential also because they have more funds. Also, for this reason, we advocate a different model of funding allocation. In this regard, between the two forms of pluralism, we favour *engaged pluralism* because it combines epistemic diversity with constructive dialogue and methodological awareness. Unlike fragmented pluralism, which risks incoherence, engaged pluralism preserves diversity through communication, coordination, and synthesis among research programs. It thus offers a framework capable of sustaining innovation and cumulative learning within the discipline, while avoiding both the rigidity of monism and the disintegration that comes with fragmentation (Cedrini et al. 2026).

At this stage, we provide a table that summarizes the comparison of monism, fragmented pluralism, and engaged pluralism in economics, as developed in this section (Table 2). The table highlights their defining characteristics, relationships between unity and diversity, typical funding patterns, and main strengths and weaknesses. By summarizing these distinctions, the table clarifies the methodological and institutional implications discussed above and supports the argument for favoring engaged pluralism.

The epistemological orientation of a research community has direct implications for funding policies. Monism typically favors the concentration of resources within a few dominant groups, reinforcing methodological uniformity and limiting epistemic diversity. Fragmented pluralism disperses resources across numerous small projects, which may hinder efficiency and the cumulative advancement of knowledge. Engaged pluralism, in contrast, supports a more balanced allocation that integrates

Table 2 Monism, fragmented pluralism and engaged pluralism: strengths and weaknesses

	Monism	Fragmented pluralism	Engaged pluralism
Definition	Unitarian view of the discipline, considering their approach superior compared to others "within" and "outside" the discipline	Diversity without dialogue between approaches leads to fragmentation and inconsistency	Dialogue between different approaches and/or research programs "within" and "outside" the discipline towards epistemic diversity
Relationship between unity and diversity	Excessive unity, closeness towards other approaches	Excessive diversity based on a fragmentation without synthesis	Balance between unity and diversity. There is synthesis with the recognition of diversity "within" and "outside" the discipline
How institutions might fund them	Big funds for few research groups (when they adopt strict meritocratic criteria)	Risk to have too small funds (in turn, limited growth of knowledge)	Promoting a more balanced funding allocation, combining high quality and diversity
Strengths	Methodological clarity, consistent within the discipline	High degree of diversity in knowledge production	Effective dialogue between different approaches and/or research programs
Weaknesses	Methodological internal homogenization	Possibility of inconsistency and dispersive knowledge and low quality research, acceptance of degenerating programs for promoting diversity	Huge efforts to make the communication among the different parts effective

both excellence and epistemic diversity, thereby promoting innovation, constructive dialogue, and coherent development across the discipline.

The overall discussion about the strengths and weaknesses of monism and unity *in comparison to* pluralism and fragmentation shares some points with the long-standing debate between concentrating and diversifying resources across various economic activities. From this perspective, we believe that the evolutionary literature on the economics of innovation and technical change (Nelson & Winter, 1982; Dosi, 2023) can offer some valuable insights.

4 A Schumpeterian interpretation of research funding allocation

The allocation of research funding can be also read through a Schumpeterian lens, which highlights the trade-offs between concentration and diversity in knowledge production more in depth. While universities differ from profit-seeking firms, the dynamics of innovative activity—cumulative learning, entry of new actors, and turnover of leadership—bear analogies to Schumpeter's Mark I and Mark II patterns. For this reason, we first discuss the theoretical framework that helps conceptualize these dynamics in the research system, in Sect. 4.1. We then discuss the practical implications of this perspective for the design of funding policies, emphasizing the advantages and limits of promoting diversity over concentration, in Sect. 4.2. Together, these sections provide a structured view of how Schumpeterian insights can inform

both our understanding of research system dynamics and the formulation of resilient, inclusive, and innovation-friendly funding strategies.

4.1 A theoretical Schumpeterian framework to discuss diversity vs. concentration in funding dynamics

As established by *Research Policy*, the leading journal in the field, the literature on the economics of innovation and technological change is "devoted to analyzing, understanding and effectively responding to the economic, policy, management, organisational, environmental and other challenges posed by innovation, technology, R&D and science".[3] For the purpose at hand, we begin by recognising the extensive empirical evidence that, in every industry, there are multiple sources of knowledge involving institutions and organisations ranging from firms to non-firm actors. Industries therefore differ substantially in these dimensions, and it is neither possible nor desirable to define an ideal type of sectoral system (Malerba, 2004).

From the perspective of industrial dynamics, three supply-side factors contribute to characterising a *technological regime* (Nelson & Winter, 1982): technological opportunities, appropriability conditions, and the properties of the knowledge base. Conditional on the amount of resources invested in innovative search, technological opportunities define the likelihood of achieving a successful innovation. High levels of opportunity, as in science-based sectors like the computer industry or life sciences, relax scarcity constraints and are associated with turbulence in the market structure, high entry and exit rates, and instability in firms' hierarchies (Malerba & Orsenigo, 1995; Winter, 1984). Appropriability conditions concern the ability of innovators to profit from innovations (Teece, 2010) and to protect benefits from imitation. These differ from entry barriers: the former relate to all potential competitors, while the latter refer specifically to new entrants (Levin et al., 1987; Pavitt, 1984). Finally, the properties of the knowledge base concern specificity, tacitness, and complementarities, which together shape cumulativeness, which captures the degrees to which "success breeds success" (Winter, 2009). In sectors with high cumulativeness, innovators consolidate technological advantages, and the persistence of these capabilities acts both as a selection mechanism and as a barrier to entry.

On this basis, the evolutionary literature distinguished between two technological and learning regimes building upon Schumpeter (1934, 1942). On the one hand, *Schumpeter Mark I* refers to the *creative-destruction* pattern of innovative activity, where new entrants introduce innovations that destabilise incumbents' leadership. On the other hand, *Schumpeter Mark II* reflects the *creative-accumulation* pattern, where large firms with R&D laboratories steer innovation and their persistence in leadership is stronger. While this dichotomy has proven highly influential, it is generally understood that industries are distributed across a continuum of features and may evolve from one pattern to another as they mature (Gort & Klepper, 1982; Klepper, 1996).

When applied to the domain of research funding, the Schumpeterian analogy can be heuristically illuminating though to be treated with caution. Universities are not profit-seeking firms, and the allocation of public resources for research is shaped

[3] See https://www.sciencedirect.com/journal/research-policy.

by institutional logics of accountability, peer review, public value creation, and collective knowledge-building rather than market exchange. As Geuna (2001) stresses, funding mechanisms are driven not only by efficiency but also by political choices and normative concerns, which often produce unintended consequences in universities' research trajectories. Allocating funds excessively towards a specific direction of knowledge accumulation may concentrate resources and research activity in a small subset of universities, generating quasi-monopolistic structures in research markets. In this respect, Geuna's notion of resource concentration and inequality envisages a situation in which high-performing institutions accumulate advantages at the expense of lagging universities, thereby reinforcing existing hierarchies. This concentration not only increases market power in terms of reputation and funding catalyst for the dominant universities, but also reduces the pool of common knowledge accessible to the broader academic system. As a result, cumulative innovation may slow in the medium-to-long run because fewer institutions contribute to and draw from shared research outputs, weakening the dynamic feedback loops that drive the system-level accumulation of knowledge.

Consequently, short-term gains achieved by dominant universities come at the expense of long-term growth and robustness across the university network. This mechanism highlights an important unintended consequence of extreme policy targeting, consistent with Geuna's warning: while prioritizing certain types of research can maximize immediate outputs, it can inadvertently undermine the broader knowledge ecosystem, limiting diversity, innovation opportunities, and the system's capacity to sustain high productivity over time. The theoretical framework developed in Borsato et al. (2024) and the empirical evidence in Archibugi and Filippetti (2018) and Stephan (2013) confirm these warnings: the negative effects stemming from a concentration of resources are particularly pronounced in mission-oriented endeavours, where monopolistic tendencies reduce creative accumulation and hinder the emergence of new research trajectories, emphasizing the importance of balanced, broad-spectrum funding for maintaining both competitive pressure and knowledge diversity.[4]

From this perspective, the Schumpeterian interpretation of the concentration vs. diversity debate is useful as an analogy, particularly to capture the risks of excessive concentration of resources (as in Schumpeter Mark II) versus the potential benefits of maintaining variety and competition (as in Schumpeter Mark I). Yet this perspective cannot be transferred wholesale. Unlike markets, the research ecosystem thrives not only on competition but also on collaboration, peer review, and knowledge sharing. Scientific advances typically depend on cumulative, collective processes, and breakthroughs often arise through collaborative networks rather than isolated competitive races. The Schumpeterian analogy therefore highlights only part of the picture: funding policies must also be assessed against institutional, normative, and social-choice dimensions that shape how resources are allocated and used. Accordingly, while meritocratic allocation criteria based on excellence appear attractive, a narrow

[4] In this perspective, the retreat of public research has had detrimental effects on innovation, precisely because the public sector sustains long-term, pre-competitive knowledge that private actors underinvest in (Archibugi & Filippetti, 2018).

focus on concentration risks reinforcing path-dependence and reducing resilience. Research fields often resemble a Schumpeter Mark I environment in which leadership is temporary, knowledge diffuses, and turnover is frequent (Borsato et al., 2024). But unlike in industry, such turnover is embedded in a collective scientific enterprise. Concentrating resources in a few elite institutions may therefore reduce system-wide diversity and inclusiveness, thereby undermining the knowledge base available to the community. Conversely, more pluralistic and distributed funding schemes help sustain resilience, inclusiveness, and the emergence of alternative research trajectories.

In this sense, simply increasing the overall volume of funding is insufficient if allocation mechanisms remain biased toward reputation and concentration: distributional rules strongly shape institutional trajectories (Borsato et al., 2024; Geuna, 2001). Therefore, preserving public research capacity is essential to sustain innovation in the long run. When observing the postwar US university system and the rationales that guided Bush's *endless frontier*, public funding was committed to balancing short-term efficiency with long-term cumulative capacity (Stephan, 2013). From this combined perspective, policies that preserve competition, strengthen smaller institutions, and broaden participation are better aligned with the health of the research system. The Schumpeterian lens thus remains helpful to conceptualise tensions between concentration and diversity, but its applicability is necessarily limited: public research funding operates in a more complex institutional setting, where resilience, inclusiveness, and collective learning are as important as efficiency or competition (Archibugi & Filippetti, 2018).

4.2 Advantages and limits of diversity in research funding allocation from a schumpeterian perspective

There are at least four reasons to prefer diversity over concentration in research funding allocation, drawing on insights from the literature of the economics of innovation while acknowledging the institutional and normative specificities of public research. While the Schumpeterian distinction between Mark I and Mark II provides a useful heuristic, it cannot be transposed literally to the governance of research funding. Public research systems are shaped by collective objectives, accountability requirements, and social-choice mechanisms (Geuna, 2001; Stephan, 2013), which means that the dynamics of competition and collaboration differ significantly from those in markets. Against this background, we identify four reasons to prioritise diversity.

Firstly, diversity mitigates *social dilemmas* in knowledge production. As Acemoglu (2011) and Klinger et al. (2022) observe, to name but a few, researchers face incentives to homogenise their activities around mainstream approaches, often at the expense of alternative paradigms. Preserving technological and methodological diversity improves resilience, especially under uncertainty regarding the strengths and weaknesses of different paradigms. Bottlenecks in dominant paradigms, such as those referring to neoclassical economics (Caiani et al., 2016; Colander et al., 2008; Kirman, 1992; Petri, 2021), are often resolved by approaches that originate outside the mainstream (Perez, 2002). By maintaining pluralism, funding systems enhance the likelihood that alternative trajectories will remain viable.

Secondly, diversity enhances *inclusion* and broadens *participation*. Technologies and knowledge are deployed in heterogeneous contexts. A funding system that supports diverse institutions and approaches allows multiple constituencies to benefit from research outcomes (Stirling, 2011). Concentrating funding in elite institutions risks exacerbating inequalities and narrowing the social base of knowledge production, whereas broader distribution supports solidarity and legitimacy in science policy (Geuna, 2001).

Thirdly diversity fuels *creativity.* Innovation thrives on the unconventional recombination of ideas (Arthur, 2009; Klinger et al., 2022). Methodological and disciplinary diversity increases the scope for novel combinations, thus raising the probability of disruptive innovations. Conversely, concentration may produce efficiency gains in the short term but risks locking institutions into narrow trajectories.

Fourthly, diversity aligns with the Schumpeterian Mark I analogy while tempered by institutional realities. Therefore, leadership is temporary, knowledge diffuses rapidly, and entry by new ideas reshapes the field. However, like firms, universities operate in a system characterised by absorptive capacities (Cohen & Levinthal, 1990; Teece, 2010) and collective knowledge-sharing. Research outputs in terms of papers, datasets, collaborations pour on top of the *common pool of knowledge* that sustains the wider system. Policies that restrict competition and concentrate resources in a handful of elite organisations risk impoverishing this pool, thereby reducing the quality and quantity of future research. This is consistent with Archibugi and Filippetti's (2018) warning that the retreat of public research and the concentration of resources undermine innovation at system level.

At the same time, the limits of the analogy must be acknowledged. Research organisations cannot fully rely on internal capabilities due to path-dependence and exclusion effects, which impede exploration of novel paradigms. Universities therefore depend on knowledge flows from other institutions and on coordination within larger networks. The US postwar research system deliberately avoided excessive concentration, channelling resources across a variety of institutions to maintain cumulative capabilities (Stephan, 2013). This strategy preserved both the quality and the quantity of research.

In light of these considerations, funding policies that counteract tendencies toward concentration, both in terms of institutional beneficiaries and methodological orientation, are essential. Broad-spectrum schemes preserve variety in the knowledge space and increase the number of available trajectories for future development. Therefore, research funding in economics should favour an institutional configuration closer to a tempered Schumpeter Mark I pattern, in which diversity and turnover coexist with collaboration and cumulative learning. A generalised increase in funding is not sufficient if allocation mechanisms continue to privilege reputation and concentration (Borsato et al., 2024). Instead, targeted support for smaller institutions, coupled with sustained competition and inclusive participation, better reflects the dual goals of resilience and excellence in research.

5 Concluding remarks

5.1 General considerations

Our discussion on the evolution of economic discipline suggested a more balanced relationship between excellence and diversity in public research funding dynamics, possibly combining the so-called formula "high-quality research output alongside epistemic diversity". To endorse this view, we first adopted a joint historical and methodological perspective to illustrate the limits and advantages associated with different combinations of monism/diversity and unity/fragmentation versus pluralism among orthodox and heterodox economic research communities, based on the evolution of the discipline. Subsequently, the Schumpeterian reading of the advantages and limits of meritocracy versus diversity confirmed that a pluralistic approach is better than a strict meritocratic one in the specific case of economics, based on its evolution.

In light of this two-fold analysis, which might successfully be applied also to other social sciences, probably with different results, we argue that public research funds should fund more diversified research projects to specifically promote the previously mentioned "engaged pluralism" in the economic discipline, based on the criterion of diversity alongside high research quality of research outputs. In a mainstream pluralism age, in front of the possibility of a "fragmented" or an "engaged pluralism", it is essential to promote the dialogue across research communities. Integrating both within and outside economics for avoiding the fragmentation typical of uncoordinated diversity which also includes low-quality research, while preserving epistemic richness and fostering the growth of knowledge.

Promoting the dialogue "within" and "outside" the economic discipline, through engaged pluralism, is the ideal strategy for policymakers for the following principal reasons. Firstly, for public interests itself because engaged pluralism might offer complex and diversified answers (through their research projects) to address contemporary challenges that affect socioeconomic reality. Thus, contemporary socioeconomic issues equally demand that mainstream orthodox economists and more heterodox figures, who belong to peripheral research programs and fields in the economic realm and adopt multidisciplinary and transdisciplinary approaches, address the complexity of socioeconomic reality. Secondly, for epistemological reasons, because engaged pluralism is the ideal understanding of economic discipline for promoting real diversity against monistic attitudes that characterized both economic imperialism and contemporary fragmented pluralism in different measures. We need "diversity without fragmentation" and "diversity instead of unity". As previously discussed, fragmented pluralism poses a threat to the unity of the discipline. However, diversity should also have limits to avoid very small research funds being allocated to groups that may not even be able to develop their projects due to limited funding. Real pluralism and diversity can be effectively achieved through engaged pluralism, as it actively fosters dialogue among different research communities.

Engaged pluralism, grounded on epistemic diversity, encourages a broader expansion of knowledge by supporting more varied research groups than a strictly meritocratic funding system. Evidence from the literature suggests that diversified research teams tend to produce more innovative and creative outcomes, due to the combina-

tion of different perspectives and methodological approaches (e.g., Leahey et al., 2017; AlShebli et al., 2018). This aspect is particularly relevant in the context of public research funding, because concentrating resources in a few large research groups may deepen knowledge in specific areas but can limit the diversity of topics investigated and reduce the overall epistemic breadth of the discipline (Fortin & Currie, 2013; Larivière et al., 2015). Thirdly, for power dynamics in academic departments to reduce the persisting inequalities that mainly favor mainstream orthodox economists, disadvantaging smaller heterodox research groups. It is a well-known issue that those research groups that are more funded in a department also exercise more power in recruitment procedures. In this way, senior scholars will select young scholars' profiles similar to their own, to the detriment of diversity, particularly in smaller research communities that face greater difficulties in securing funding. Strict meritocracy consolidates these dynamics. Just thinking of the community of historians of economic thought who seem to be a luxury good in many academic departments. An inclusive definition of meritocracy that also encompasses diversity would mean reducing inequalities within academic contexts, as non-orthodox research communities often face the most significant barriers to accessing public research funds.

5.2 Some policy measures and possible obstacles for their implementation

After drawing these general conclusions, we suggest some policy measures, as well as possible obstacles to their implementation, towards a more balanced relationship between excellence and diversity in research funding allocation in economics. Additionally, we will consider how universities might react to this implementation.

Regarding concrete policy measures to support "high-quality research outputs alongside epistemic diversity" in economics, possible strategies include, first, diversifying peer review panels, which is crucial to prevent epistemic biases that favor mainstream orthodox neoclassical paradigms and to ensure a fair assessment of heterodox approaches (Gläser & Laudel, 2016). In this respect, some reviewers should also belong to heterodox research communities (for instance, post-Keynesian, institutionalist, feminist economics, and others). In general, reviewers should be trained to mitigate possible epistemological bias related to their own research interests, as well as to consider reports that also take into account originality, innovation, and diversity. Second, explicitly incorporating pluralism as an evaluation criterion encourages projects that contribute to disciplinary diversity, promote dialogue between different schools of thought, and integrate multiple methodologies (D'Ippoliti, 2017; Mirowski & Sent, 2008). Third, targeted calls for heterodox or interdisciplinary research, along with dedicated seed grants and fellowships for early-career researchers, can counter structural disadvantages and foster the emergence of new research programs through ad hoc initiatives (we already have some examples, for instance, the SNSF, Wellcome Trust, and Open Research Fund). Moreover, funding high-risk and high-innovation projects and adopting alternative metrics—such as qualitative assessments of societal relevance, conceptual contribution, and field-normalized citations—can weaken the possibility of the overconcentration of resources and the persistence of a monistic and hierarchical view of economic discipline (Mirowski & Sent, 2008; Gläser & Laudel, 2016). Encouraging thematic diversity aligned with societal challenges, such as eco-

nomic inequality, climate resilience, and well-being, further ensures that pluralistic research addresses pressing real-world problems (D'Ippoliti, 2017).

Instead, potential obstacles for more inclusive meritocratic funding strategies include limited funding availability, institutional resistance from entrenched mainstream orthodox communities, and the difficulty of operationalizing pluralism in evaluation frameworks. For instance, the level and distribution of public research funding in countries such as Italy and France are critically low compared to other European contexts. This scarcity risks reinforcing existing hierarchies, privileging well-established mainstream groups while marginalizing heterodox research communities. Without deliberate policy interventions inspired by engaged pluralism, the potential for epistemic diversity and innovation in economics may remain severely constrained.

About how universities can react to a revision of research funding criteria, in another work (Borsato et al., 2024), we analyse the dynamics related to funding allocation based on the universities trajectories about teaching, research and third-mission through an agent-based model. Therefore, we achieved similar results from a different perspective. In particular, we discuss how universities are increasingly asked to support the economic development at local, regional as well as country levels with the provision of useful teaching and research (Cowan et al., 2010; Uyarra, 2010; Wowk et al., 2017). Accordingly, a university organises its activities (teaching, but also research) considering the way governments distribute funds to the production and diffusion of knowledge. This is another reason why policymakers should also consider as a possible criterion for assigning research funds the evolution of a discipline, reducing inequalities within academic departments, especially when we refer to economic research communities.

The analysis of university behaviour and related funding policies across time and space remains a relatively unexplored frontier of economics (Bess et al., 2023; Carayol & Maublanc, 2025; Del Rey, 2001; Ramirez & Christensen, 2013). A growing bulk of research highlights the complex interrelations among teaching, research and public engagement (Benneworth et al., 2016; Bianchini et al., 2016), as well as the extent to which private-sector innovation depends on public research (Arora et al., 2015). However, the existing literature still lacks a deeper understanding of the multiple trajectories universities may follow when interacting with policymakers. Most studies neglect the endogenous trade-offs and complementarities that arise between academic activities (research, but also teaching) and funding policymaking. With this work, we partially filled this gap, at least, from a qualitative perspective.

Given the complexity of research dynamics, future studies could combine qualitative approaches, such as the analysis of disciplinary evolution, with quantitative simulations to assess the effectiveness of policy designs based on these criteria.

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