

Why does research assessment need systems thinking?

Journal Impact Factor (JIF) is now widely deployed in academia largely because of its simplicity. However, the entrenched misappropriation of this proxy indicator has created systemic imbalances and inequity in the production and recognition of quality scholarship.

In complex systems like research assessment there is rarely a one-size-fits-all approach, and any effective intervention to replace JIF will require significant cooperation and the re-alignment of goals across a variety of different entities.

External system forces set the context

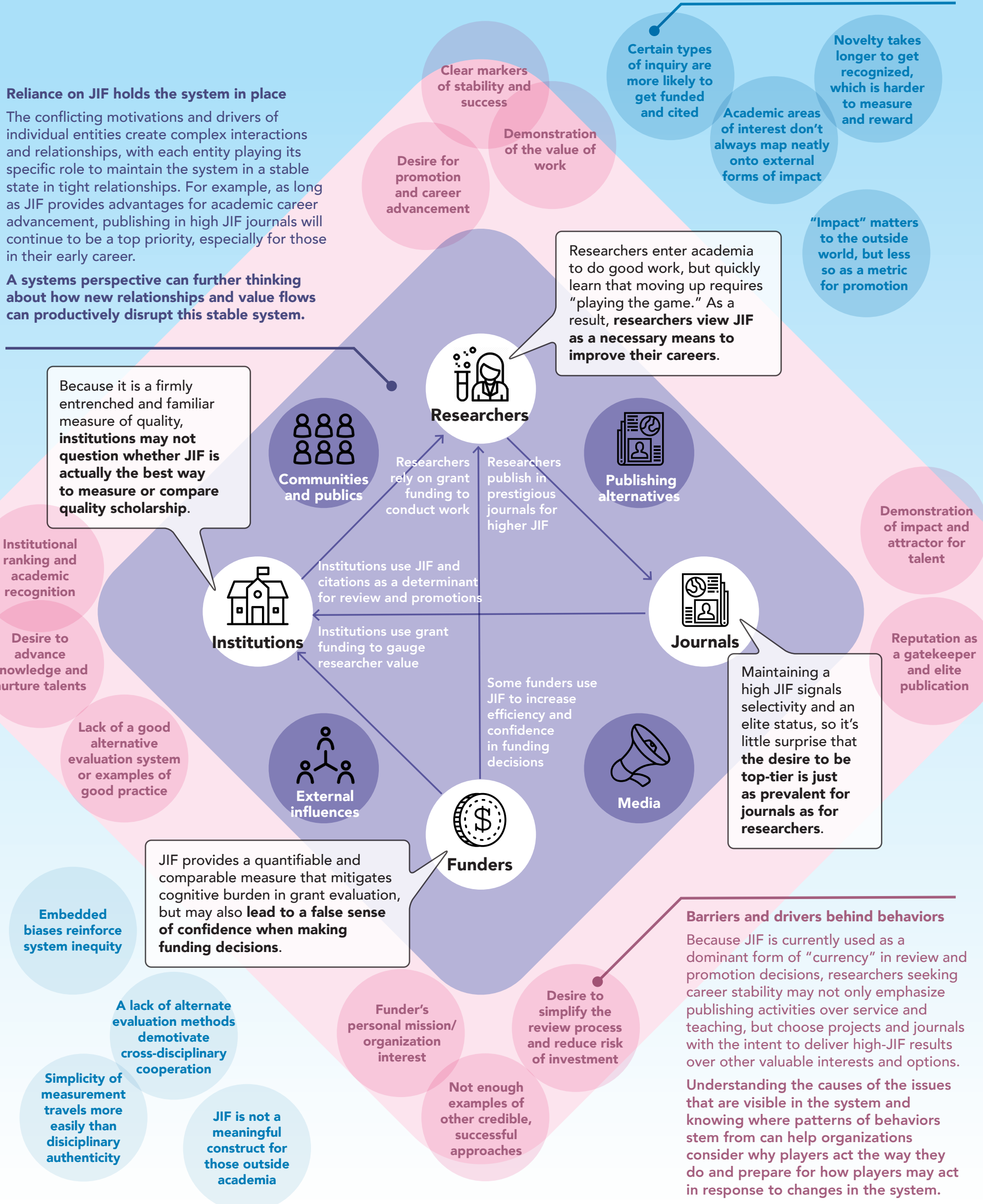
Systems involving an open and networked set of entities produce their own forces, which result in a dynamic pattern of behaviors and complex relationships over time.

Recognizing the nature and source of these system forces can help us identify where to focus, and where deeply embedded perceptions may be shaping institutional structures.

Reliance on JIF holds the system in place

The conflicting motivations and drivers of individual entities create complex interactions and relationships, with each entity playing its specific role to maintain the system in a stable state in tight relationships. For example, as long as JIF provides advantages for academic career advancement, publishing in high JIF journals will continue to be a top priority, especially for those in their early career.

A systems perspective can further thinking about how new relationships and value flows can productively disrupt this stable system.

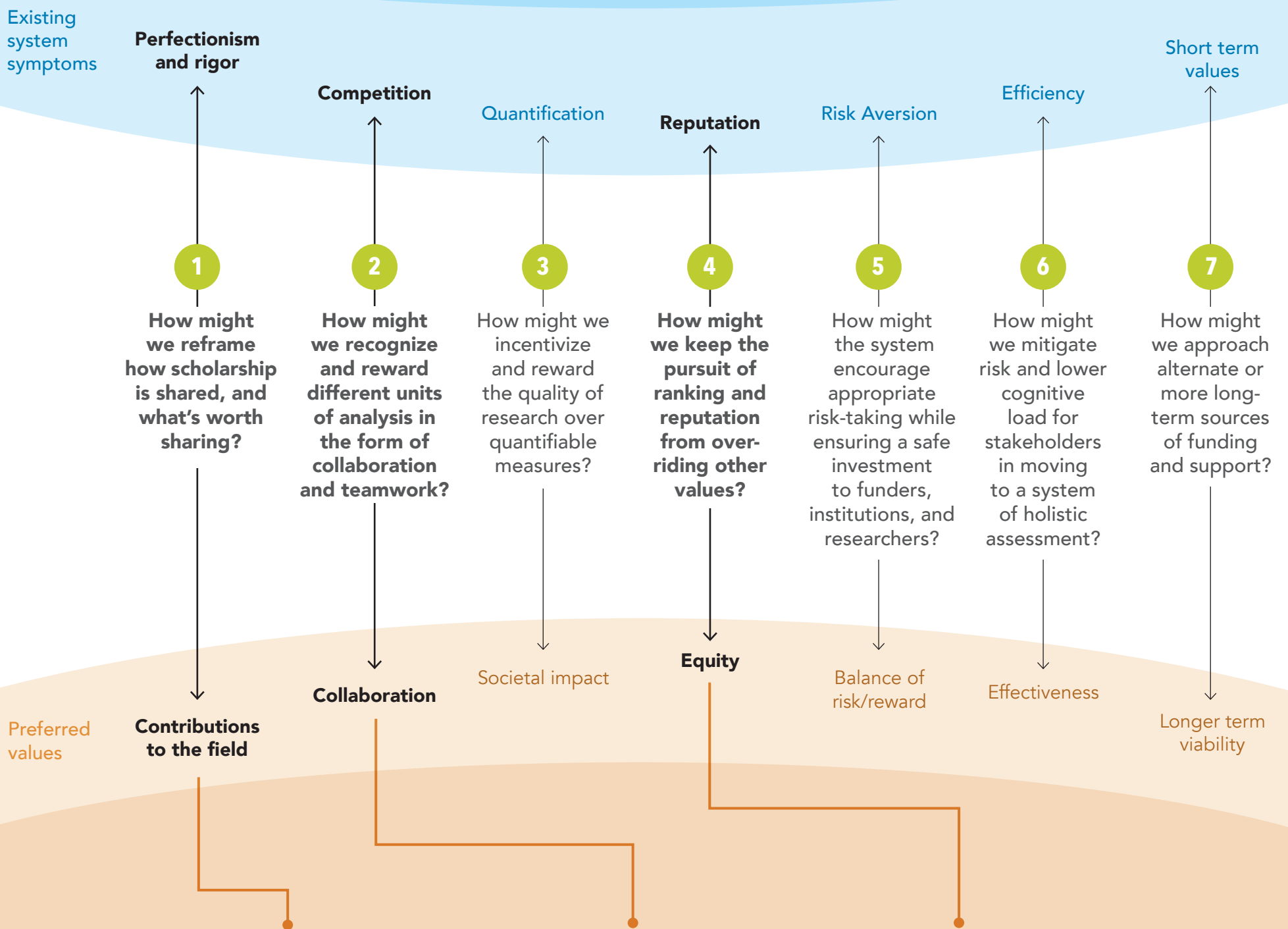


What can we do?

Systems thinking can provide insight into areas where institutions have the highest chances of making strategic interventions, with the goal of advancing practical and robust approaches to research assessment globally and across scholarly disciplines.

Stable systems can be difficult to change, which may cause tensions within the current system and require disruption to achieve a more desirable one. The interactions and relationships between entities with conflicting behavioral drivers produce tensions that can create unintended outcomes and reinforce perverse incentives for action.

We identified seven primary tensions resulting from dynamics in the current state of the research assessment system, which pit opposing values against one another. While neither value is entirely good or bad, the values at the top — *perfectionism and rigor, competition, quantification, reputation, risk aversion, efficiency, and short term results* — tend to emerge from or reinforce a reliance on JIF, while those below — *contributions to the field, collaboration, societal impact, equity, balance of risk/reward, effectiveness, and longer term viability* — are more aligned with a research assessment context that rewards broader notions of quality scholarship.



Starting from these three tensions of focus, institutions can embrace a system perspective of research assessment in a practical way. By making achievements visible and concrete across disciplinary and geographic borders, institutions can create a momentum for lasting change and expand its network for partnership for a better system of research assessment.

To realign research assessment and decision-making with core academic values within and across organizations, institutions can conduct both internal discussions and conversations with external stakeholders to explore new ways, such as:

- (Re)defining core academic values and how they might be measured and achieved in new ways
- Identifying gaps between current practices (what is shared) and desired outcomes (what is worth sharing)
- Revealing underlying considerations of stakeholders with a decisive role
- Inviting decision-makers and most affected groups to co-create solutions

To recognize and reward different units of analysis in the form of collaboration and teamwork, institutions can connect with and facilitate partnerships between organizations that would benefit from cross-disciplinary collaboration and teamwork, such as:

- Identifying partners in the field who are doing collaborative work and research
- Curating and evaluating tools and approaches for rewarding collaborative scholarship
- Determining parties that would benefit from collaboration and cross-disciplinary work
- Sharing best practices and case studies, and collecting feedback for iteration

To improve system equity and elevate these values over ranking and reputation, institutions can leverage its position as a convener and advisory organization to strategically consider tools, partnerships, and alternatives to JIF and encourage behaviors that address structural inequality in the system, such as:

- Articulating new forms of value and measurement to advance practices that promote equity
- Identifying potential key audiences of these interventions and their behavioral drivers
- Considering new motivators that may encourage new patterns of behaviors and create relationships in the system
- Positioning equity as a key indicator in mainstream ranking systems