The New Architecture of Development Economics

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Abstract

Development economics is entering a period of institutional change. The aid architecture that helped shape the modern field is becoming more plural as regional institutions, emerging-economy financiers, domestic capital, and private investment assume greater importance. At the same time, economic integration, digital financial infrastructure, industrial policy, and resource strategies are creating development environments that operate at the level of markets and systems rather than isolated interventions. Experimentation is also moving beyond universities and development agencies: some data-rich firms and digital platforms generate high-frequency data and conduct continuous experiments at substantial scale. These changes do not diminish the value of randomized trials or causal inference. Rather, they alter the institutional setting in which those tools are most useful. We argue that development economics should evolve from a primarily intervention-centered model toward a systems-oriented architecture that combines experimental and quasi-experimental methods with administrative data, network analysis, economic modeling, simulation, and institutional knowledge. This shift also requires research institutions that are more geographically distributed and more deeply embedded in the economies they study, while preserving methodological independence and public accountability. The resulting field would not abandon the randomista revolution but extend its central insight—that development claims should be tested against credible counterfactuals—to a world in which governments, firms, and societies continuously redesign the systems in which those interventions operate.

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1 An institutional architecture in transition

Development economics is not simply facing a debate about which methods should dominate its research agenda. The institutions that finance development, design economic infrastructure, generate data, and translate evidence into decisions are changing together. This matters because the organization of research influences which problems are studied, which evidence is valued, and who can act on what is learned.

For decades, Western bilateral aid agencies and multilateral development organizations formed one influential institutional channel connecting public finance to governments, research institutes, universities, and nongovernmental organizations in low- and middle-income countries. This relationship was not simply financial. Donor agencies developed evaluation units, formalized project appraisal and project-cycle management, and increasingly used evaluation both to assess accountability and to inform the design of subsequent programs. By the late 1980s, evaluation had become an established function across major donor agencies, with the OECD providing a forum for the exchange and synthesis of findings. Over subsequent decades, the aid-research interface expanded alongside successive generations of research on aid effectiveness and the growing emphasis on evidence-based policy. Contemporary research-policy organizations illustrate how donor funding, academic researchers, and implementing partners can be connected through initiatives that identify policy questions, fund evaluations, and support the use of findings. This history does not mean that development economics was controlled by aid institutions, or that aid was its only source of finance or ideas. It means that aid-funded institutions helped establish a prominent organizational model for identifying, funding, evaluating, and scaling interventions.[1–4]

That architecture is undergoing substantial change. In 2025, the United States initiated a review of foreign assistance, paused new obligations pending that review, and moved to end the independent implementation role of the U.S. Agency for International Development (USAID). By July 2025, responsibility for remaining USAID programs had shifted to the Department of State. A September 2026 Government Accountability Office review described the end of USAID's implementation role and documented substantial reductions in programming and staffing.[5,6] These developments do not mean that Western development finance has disappeared. They do illustrate the vulnerability of a research ecosystem closely connected to a small number of public funders.

At the same time, governments face a wider set of potential partners: domestic capital markets, regional development banks, sovereign funds, emerging-economy financiers, private investors, and technology providers. The expansion of BRICS illustrates this pluralization, although it should not be mistaken for a unified alternative development model. By 2025, the grouping had expanded to eleven full members, while a separate partner-country category included countries such as Nigeria and Uganda. BRICS itself is principally a political and diplomatic coordination forum; a distinct institution, the New Development Bank, was established by its five founding members to mobilize resources for infrastructure and sustainable-development projects in emerging and developing economies. Together, these institutions illustrate a widening range of arrangements through which governments can coordinate and access development finance, without constituting a unified alternative model.[7–9]

What is emerging is an option-rich, but also more fragmented, environment. Multiple sources of capital and technology can expand governments' choices and bargaining power. They can also produce competing standards, debt vulnerabilities, geopolitical pressure, and weaker coordination. Institutional pluralization is not automatically developmental. Its importance for the discipline is that decisions about investment, infrastructure, and economic strategy are increasingly made across a wider range of institutions.

The relevant policy questions consequently extend beyond whether a discrete intervention works. Governments may need to determine how to finance a regional infrastructure network,

whether an industrial policy will create supplier capabilities, how payment arrangements affect trade, or how firms will respond to new market rules. These remain empirical questions, but they require researchers to understand institutions, networks, technology, finance, and strategic behavior alongside treatment effects.

2 From national interventions to connected economic systems

Africa's effort to deepen economic integration illustrates how the object of development policy is changing. The African Continental Free Trade Area (AfCFTA), which entered into force in 2019 and formally commenced trading in 2021, seeks to create a continental market for goods and services and to support investment and regional value chains. The distinction matters: the Guided Trade Initiative was launched in 2022 to help initiate meaningful preferential trade among participating states.[10–12] Its ambition is not autarky or separation from global markets. It is to make African economies more capable of trading with one another and participating in production networks at a larger scale.

A factory serving one small national market may not justify investment in modern production. Access to a larger regional market can change that calculation. The same logic applies to logistics, standards, payment systems, industrial parks, and specialized suppliers. Yet tariff reductions alone cannot overcome unreliable electricity, high transport costs, fragmented customs procedures, incompatible standards, limited working capital, or weak productive capacity. Integration is therefore a systems problem: the return to one reform depends on the presence of complementary institutions and infrastructure.

Consider a manufacturer seeking to export from Ghana to Kenya. Lower tariffs may increase the expected return to exporting, but only if transport is reliable, standards are recognized, customs procedures are predictable, working capital is available, and payment can be settled efficiently. Improving one component may have little effect if another remains binding; coordinated improvements may generate complementarities that no single intervention could produce independently. The relevant unit of analysis may therefore be a firm network, supply chain, trade corridor, or regional market rather than an individual beneficiary or village.

Financial infrastructure is part of this system. The Pan-African Payment and Settlement System (PAPSS), developed by Afreximbank in collaboration with the AfCFTA Secretariat, is designed to facilitate cross-border payments in local currencies through participating banks and payment providers. Its operating model includes prefunding through participating central-bank real-time gross settlement systems and daily net settlement; PAPSS also issues equivalent hard-currency settlement instructions through Afreximbank. It therefore adds a regional payment and settlement rail while continuing to rely on central-bank settlement infrastructure and Afreximbank for the hard-currency settlement of net positions.[13,14] It does, however, make payment infrastructure itself an object of regional economic design. Researchers can ask whether lower transaction frictions change firms' export participation, invoicing, liquidity management, or choice of trading partners, and whether those effects spread through commercial networks.

Resource policy presents a related systems challenge. The question for resource-rich economies is not only how much to extract, but which capabilities can be built around extraction: processing, engineering, logistics, finance, technology, and downstream production. Domestic processing requirements or local-content rules may create opportunities for learning and supplier development, but they can also raise costs or deter investment when complementary capabilities and infrastructure are inadequate. Reviews of extractive-industry policies find mixed results and emphasize supplier development, technical training, infrastructure, and coordination as components of more promising approaches. The broader industrial-policy literature likewise stresses that effects depend on policy design, state capacity, market size, and the economic structure in which support is deployed. The relevant empirical question is under what institutional and market conditions resource-based industrial policies generate durable productivity gains. AfCFTA may

expand the market available to regional processors, but regional value capture is not guaranteed by a trade agreement.[15–17]

These examples expose the limits of treating interventions as independent units. A precisely estimated effect of a tariff reduction, credit guarantee, training program, or infrastructure investment does not by itself reveal how firms, prices, competitors, public budgets, and neighboring markets will respond when several policies operate together. Research connecting micro evidence to macro-development emphasizes the roles of resource constraints, heterogeneity, general-equilibrium effects, trade frictions, dynamics, and returns to scale.[18,19] The distinction is not between micro and macro, or between randomized and observational methods. It is between estimating the effect of a component and understanding the consequences of changing a system.

A systems-oriented approach therefore asks: what happens when an intervention is introduced into an environment in which other agents, markets, institutions, and technologies respond? Answering this question may require randomized experiments, quasi-experimental designs, administrative and transactional data, network analysis, structural models, simulation, and qualitative institutional research. The appropriate combination depends on the problem. Experiments remain valuable for identifying mechanisms; they do not, by themselves, establish the equilibrium consequences of scaling a policy.[18,19]

This also changes how researchers think about external validity. An intervention that benefits 1,000 households may have different effects when extended to 10 million. Prices may adjust, firms may enter or exit, governments may change complementary policies, and consumers may adapt. Digital technologies can shorten the time between pilot and large-scale deployment, making it more urgent to anticipate these responses. The intellectual challenge is to scale the analysis alongside the intervention.[18,19]

3 Experimentation moves inside firms

A second institutional shift concerns where experimentation takes place. Firms have long tested prices, products, and marketing strategies. What is changing is the scale, frequency, and granularity of experimentation in some data-rich organizations, and the extent to which firms operate infrastructure with economy-wide consequences. At major digital companies, online controlled experiments have become routine organizational tools, with published accounts documenting annual volumes exceeding 20,000 experiments at Google, LinkedIn, and Microsoft.[20]

In digitally mediated markets, an intervention may be a change to a payment interface, credit algorithm, mobile-money fee, insurance contract, logistics platform, procurement rule, or pricing structure. A bank, telecommunications company, fintech, marketplace, or manufacturer may be able to observe transactions, modify a product, measure responses, and deploy a revised version continuously. The experimental unit may be a user, transaction, firm, market, network, or algorithm; outcomes may be observed repeatedly rather than at a single follow-up.

This creates the possibility of continuous experimentation. Firms can generate large samples and rapid feedback, and can use the results of one test to shape the next. In low- and middle-income economies, the implications can extend beyond individual customers. Mobile-money providers influence how households and businesses transact; banks influence working-capital access; logistics platforms influence market access; and telecommunications networks shape information flows. Development-specific studies show why these private systems matter, although it is important to distinguish researcher-led evaluations from experiments conducted internally by firms. In Kenya, a randomized encouragement design that increased small firms' use of electronic payments increased access to mobile loans and reduced sales volatility, but did not increase sales or profits. In Uganda, a field experiment found that disbursing microfinance loans to women through digital accounts rather than cash increased business capital and profits. In Ghana, an experiment involving 15,000 bank clients found that encouragement to adopt mobile banking increased use and improved timely loan repayment. In Nigeria, a randomized evaluation

of a digital-loan product found a short-run increase in subjective well-being among borrowers approved for a loan, but no significant effects on several other welfare measures. Together, these studies show that private digital financial systems can affect business finance and household welfare, while also demonstrating that effects are heterogeneous and need not be uniformly positive. They do not, by themselves, establish that firms in these markets routinely operate the continuous A/B-testing systems documented at major technology companies.[21–24]

But commercial experimentation is not equivalent to socially beneficial experimentation. A firm may optimize revenue, repayment, engagement, or market share rather than consumer welfare or productive inclusion. A pricing test can increase revenue while reducing consumer surplus. A lending model can improve portfolio performance while excluding creditworthy borrowers. A platform can optimize engagement while imposing costs not captured by its performance metrics. Commercial data and experiments may also remain proprietary, creating a risk that external researchers and the public observe deployed changes without seeing the full set of tests that informed them.

The resulting institutional problem is not solved by excluding firms from development research, nor by assuming that firms should control the research agenda. Firms possess operational scale, data, and the capacity to modify systems. Universities and independent research organizations contribute methodological expertise and public dissemination. Governments retain responsibility for regulation, rights, and social welfare. The challenge is to connect these capabilities while preserving independent evaluation, privacy, and accountability.

One approach is to develop research arrangements in which firms provide appropriately governed access to data and operational settings, while independent researchers help specify outcomes, treatment variation, counterfactuals, and spillover measures. Privacy-preserving data environments, transparent protocols, and publication arrangements that do not depend on favorable findings would help convert some proprietary operational knowledge into credible public evidence. Researchers should also examine effects beyond the firm's immediate objective, including competitor responses, prices, entry and exit, distributional consequences, and the allocation of surplus.

The experimental toolkit may thus become more widely used even as the institutional location of experimentation shifts. The most consequential change may not be from randomized trials to another method, but from experiments conducted mainly as discrete research projects to experimentation embedded in the routine operation of economic infrastructure.

4 Where development knowledge is produced

If finance, infrastructure, and experimentation are becoming more distributed, the production of development knowledge may also need to become more geographically distributed. For much of the modern literature, development problems were concentrated in low- and middle-income countries, while research authorship, conference participation, and access to leading publication outlets remained disproportionately concentrated in North America and Europe. Studies of development journals and conferences find that researchers based in developing countries have been underrepresented in conference presentations, top development-journal publications, and citations. A broader analysis of economics journals similarly finds that authors based in low-income countries remain markedly underrepresented, particularly in highly ranked journals. These patterns do not establish that locally based research is inherently superior, but they raise questions about whose perspectives shape research agendas and which institutions gain recognition.[25,26]

Researchers embedded in the systems they study may see constraints that are difficult to infer from internationally comparable datasets alone: how customs procedures work in practice, how firms manage unreliable electricity, how informal arrangements interact with regulation, or how payment systems affect small traders. In cross-border commerce, for example, a researcher

working within the trading system may find that the binding constraint is not the tariff but payment settlement, standards certification, warehouse finance, or working capital while goods are in transit.

Proximity is not a substitute for methodological rigor, and local institutions are not automatically independent, representative, or accountable. A research center in Accra can be disconnected from the communities it studies; a laboratory in Nairobi can be as opaque as one elsewhere. The objective is therefore not simply to relocate research geographically. It is to build institutions that combine local knowledge and ownership with transparent measurement, methodological independence, and collaboration across borders.

This suggests the need to shift from research *about* developing economies toward research conducted *within* the economies and systems being studied. Such institutions could organize research around consequential systems—payments, energy, trade, manufacturing, agriculture, urbanization, or digital infrastructure—rather than around isolated interventions alone. Their outputs would include peer-reviewed papers, but also validated measurement protocols, secure data infrastructure, causal models, and tools that allow institutions to learn from implementation.

The institutional design challenge is one of *embedded independence*: researchers must be close enough to understand how consequential decisions are made, but independent enough to evaluate those decisions credibly. Too much distance can leave research describing systems after key choices have been made. Too much dependence can make it difficult to publish unfavorable results or question the objectives of funders and partners.

Artificial intelligence may make this kind of research infrastructure more capable. Machine-learning systems can assist with data integration, anomaly detection, forecasting, heterogeneous-effect analysis, and simulation. But prediction is not causal identification, and optimization against a commercial or administrative metric does not establish social benefit. Computational scale must therefore be combined with credible research designs, transparent assumptions, and institutional knowledge.

The aim is not to make every development economist an expert in engineering, finance, computer science, and political economy. It is to build organizations in which specialized expertise can be combined around shared problems. Such organizations may be based in universities, independent research institutes, public agencies, firms, or partnerships among them. Their legitimacy will depend not on their location or organizational label, but on the quality of their evidence, their governance, and their ability to remain independent of the interests they study.

5 A broader architecture for credible evidence

The changes described here do not imply that Western universities, multilateral institutions, public finance, or randomized trials are becoming irrelevant. Nor do they imply that BRICS constitutes a coherent development model, that industrial policy is inherently effective, or that private experimentation necessarily improves welfare. The argument is about pluralization and institutional change, not wholesale replacement.

A more distributed development-economics architecture would connect governments, firms, financial institutions, researchers, and communities through institutions capable of continuous measurement and independent evaluation. The conventional model can be represented as a relatively linear sequence: funder, implementer, intervention, evaluation, publication, and possible scaling. In the emerging model, research and measurement are more likely to be embedded in systems that are being continuously modified. Data are generated during economic activity; interventions change incentives; firms and governments respond; and those responses become part of the next round of measurement.

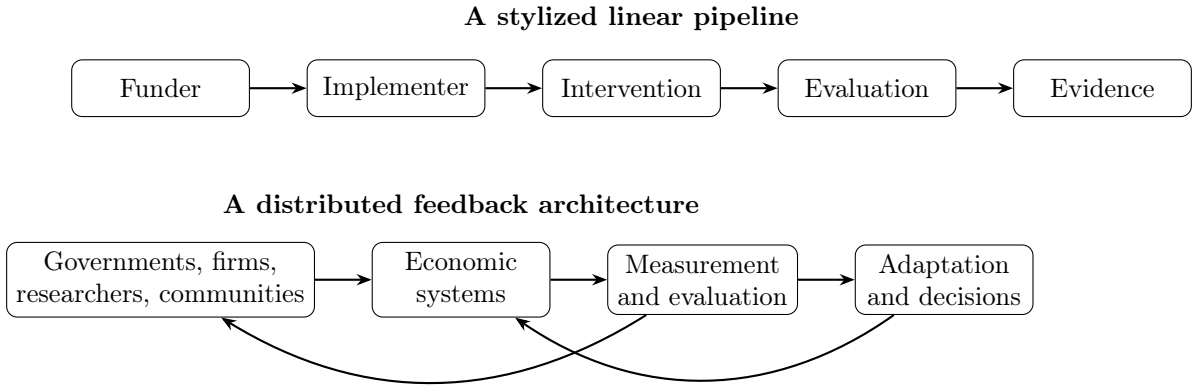


Figure 1. Stylized representations of a linear intervention-and-evaluation pipeline and a more distributed feedback architecture. The former is a simplification, not a claim that historical development research lacked feedback; the latter emphasizes the growing importance of continuous measurement and adaptation within economic systems.

Such an architecture requires practical safeguards. Data access should be governed by privacy, consent, data minimization, security, and clear limits on reuse. Research independence requires the ability to report null or adverse findings. Measurement protocols should distinguish organizational performance from broader welfare outcomes. And partnerships should specify in advance how data, methods, and results can be scrutinized and, where appropriate, disseminated.

The role of the development economist would consequently expand. Researchers would remain responsible for credible identification, but would also help determine which parts of a system can be experimentally studied, which require quasi-experimental variation, which need structural or network models, and which assumptions require institutional or qualitative investigation. They would be not only evaluators of interventions but architects of evidence.

6 The randomista is not dead

The randomized trial transformed development economics by strengthening the discipline with which researchers distinguish causal effects from appearances. That contribution remains indispensable.[27,28] A world of more complex interventions, powerful firms, rapidly changing technologies, and competing development strategies needs credible causal inference, not less of it.

But causal identification is not the same as development strategy. Decisions about manufacturing, regional integration, payment infrastructure, resource value chains, private investment, and technological change concern systems in which firms, governments, markets, and institutions respond to one another. No single method can answer every question about those systems. The task is to combine methods while preserving the standards of evidence that made experimental development economics influential.

The institutional setting is changing alongside the research questions. Development finance is more plural; regional institutions are building new economic infrastructure; firms are conducting experiments within systems that affect millions of users and transactions; and research capacity is becoming more geographically distributed. These developments do not mean that the West is being replaced by the East, governments by firms, or randomized trials by a new master methodology. They mean that development knowledge is being produced and applied across a wider set of institutions.

The randomista revolution taught development economics to ask, with unusual discipline, *Did it work?* The next generation must retain that question while asking a harder one:

What happens when it works—and the entire system responds?

That is the institutional and intellectual challenge of the new architecture of development economics.

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