

AI Literacy and Development: Understanding the Impact of Artificial Intelligence on Economic and Political Outcomes

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Abstract

Recent advances in artificial intelligence (AI) have dramatically reduced the marginal cost of accessing cognitive expertise. In low- and middle-income countries, these technologies may open new pathways for development by enhancing human capital and improving citizen-state interactions. This report outlines a research program examining two complementary interventions in Peru: (1) a general AI literacy initiative that teaches meta-skills for effective AI tool use through a mobile application, and (2) an AI-assisted platform that helps citizens understand and navigate public services through a RAG-enhanced chatbot system. Building on insights from development economics, political economy, and digital literacy research, this program examines whether democratized access to AI can help overcome traditional development barriers such as information asymmetries and human capital deficits. Through randomized controlled trials with approximately 2,000 participants, we measure both immediate effects on capability and broader impacts on economic outcomes and institutional engagement. This research aims to produce actionable evidence about whether and how AI can serve as a tool for development while enhancing rather than replacing human capabilities.

1 Introduction

1.1 Background and Motivation

Recent advances in artificial intelligence, particularly large language models, have sparked intense debate about their impact on knowledge work and economic productivity in developed economies. Many analysts predict dramatic changes in how cognitive labor is performed, with some forecasting productivity gains comparable to or exceeding those of previous general-purpose technologies like electricity or the internet (Brynjolfsson and McAfee, 2014). While the exact magnitude and distribution of these effects remains uncertain, there is broad consensus that AI will significantly reshape sectors with high information intensity, potentially transforming professional services, research and development, and knowledge-based industries (Goldin and Katz, 2014).

Far less understood is how AI might affect development trajectories in low and middle-income countries, where information sectors are less developed and institutional capacity more limited. These countries face persistent structural constraints—including human capital deficits, inadequate infrastructure, and endemic informational gaps—that hinder economic growth and governance (Banerjee and Duflo, 2011). The advent of AI systems that can provide sophisticated cognitive support through basic mobile interfaces raises intriguing possibilities. Could these tools help overcome traditional barriers to development by democratizing access to expertise and knowledge? Or will the benefits of AI primarily accrue to countries with strong information economies, potentially widening global inequalities?

This uncertainty is heightened by AI’s unique characteristics as a technology. Unlike previous technological revolutions that primarily augmented physical capabilities or enabled information sharing, AI systems can actively engage in reasoning and problem-solving alongside humans. This suggests possibilities for accelerating development that go beyond traditional models of technological change. Yet without the necessary skills and enabling conditions, these tools may remain underutilized or even exacerbate existing disparities. Limited digital literacy can prevent individuals from navigating AI interfaces effectively; weak institutional environments may struggle to integrate AI into public service delivery systems without creating new forms of exclusion or bias (Eubanks, 2017; Pasquale, 2020).

This research agenda makes several contributions. First, it develops a theoretical framework for understanding AI’s potential role in development that goes beyond viewing it simply as another productivity-enhancing technology. By conceptualizing AI as a cognitive multiplier that could fundamentally alter how expertise and knowledge flow through economies, we offer new ways of thinking about technological change and development. Second, we propose and test specific mechanisms through which AI might affect development outcomes: through individual-level cognitive support that builds human capital, and through institutional transformation that enhances state capacity and service delivery.

These questions take on particular urgency given the pace and scale of AI advancement. As these technologies become more capable and accessible, understanding how to harness their potential for inclusive development becomes increasingly crucial. If the primary beneficiaries are those already advantaged by strong educational systems and developed information economies, AI could accelerate global divergence. However, if we can develop effective approaches to AI literacy and integration, these tools might enable developing economies to “leapfrog” certain stages of traditional development pathways, similar to how mobile banking allowed many countries to bypass traditional financial infrastructure development.

Our empirical strategy combines rigorous causal identification with careful attention to mechanisms and context. Through randomized controlled trials in Peru, we examine both the direct effects of AI literacy training and the broader spillover effects as individuals apply these skills to new domains. By tracking detailed measures of how individuals learn to use AI tools effectively and how this translates into economic and social outcomes, we can begin to understand whether and how AI might serve as a catalyst for development. Simultaneously, our investigation of AI-assisted public service delivery provides insights into how these technologies might transform institutional capabilities and citizen-state relations.

The implications of this research extend beyond immediate questions of AI adoption and economic outcomes. At its core, this project examines whether a fundamental change in how humans access expertise and cognitive support could alter traditional development pathways.

If AI can indeed serve as a cognitive multiplier that helps overcome information asymmetries and institutional constraints, it might enable forms of accelerated development not possible under previous technological paradigms. Understanding these dynamics is crucial for ensuring that the AI revolution promotes, rather than hinders, global economic convergence.

2 Previous Work

The relationship between technological change and development has been central to economic theory since its inception. Classical models of economic growth emphasize capital accumulation and technological progress as key drivers of development (Solow, 1956), while more recent work highlights the crucial role of institutions and human capital (Acemoglu et al., 2001; Romer, 1990). Our research engages fundamental questions about whether AI represents not just an increment in technological capability, but a qualitative shift in how expertise and knowledge can be accessed and applied in developing contexts.

Information, Knowledge, and Market Efficiency: A rich literature in development economics examines how information problems create market failures and hinder growth. From theoretical work on information asymmetries (Stiglitz, 1989) to empirical studies of agricultural markets (Jensen, 2007), research consistently shows how limited access to expertise and market information constrains development. The rise of mobile phones has provided natural experiments in how reducing information costs affects market functioning. Studies of fishermen in Kerala (Jensen, 2007), grain traders in Niger (Aker, 2010), and farmers in Uganda (Muto and Yamano, 2009) demonstrate how better information flow can improve market efficiency and reduce price dispersion. However, this research also reveals that information alone is often insufficient - actors need help interpreting and applying information to their specific contexts (Cole et al., 2012).

The role of knowledge intermediaries has been particularly important in developing economies. Extension agents, business advisors, and community knowledge workers have traditionally helped bridge information gaps, but their reach is limited by scale and cost constraints. Recent work on digital platforms shows how technology can partially substitute for these intermediaries (Jack, 2013), though challenges remain in providing contextual expertise. Social learning and informal networks also play crucial roles in knowledge diffusion (Munshi, 2004), suggesting the importance of community-level processes in technology adoption.

Human Capital Formation and Skills Transfer: Classical human capital theory emphasizes education and training as crucial but slow-building components of development (Becker, 1964; Lucas Jr, 1988). Recent work highlights how skill mismatches and educational quality constraints limit the effectiveness of traditional human capital investments in developing countries (Hanushek and Woessmann, 2012). Studies of vocational training programs show mixed results, with success often depending on how well skills match local economic opportunities (McKenzie and Sansone, 2017). Research on technology-enabled education suggests potential for accelerating skill formation (Banerjee et al., 2007), though questions remain about scalability and depth of learning.

A parallel literature examines how knowledge transfers between individuals and firms in developing economies. Studies of manufacturing firms show how exposure to foreign expertise can boost productivity (Bloom et al., 2013), while research on agricultural extension demonstrates the challenges of transmitting complex knowledge (Anderson and Feder, 2007). The emergence of AI raises new questions about whether interactive cognitive support might enable more efficient knowledge transfer and skill development.

State Capacity and Institutional Development: A substantial literature emphasizes how state capacity shapes development trajectories (Besley and Persson, 2010; Acemoglu et al., 2005). Research on bureaucratic quality shows how administrative constraints limit policy implementation (Rasul and Rogger, 2018), while studies of corruption highlight how informational barriers enable rent-seeking (Olken, 2009). Recent work on e-governance has examined how digital technologies can enhance state capacity (World Bank Group, 2016), though evidence suggests that technology alone is insufficient without complementary institutional reforms (Banerjee et al., 2020).

The literature on citizen-state interactions provides particularly relevant insights. Studies of administrative burden show how complexity in accessing public services disproportionately affects disadvantaged populations (Herd and Moynihan, 2019). Research on information technology and public service delivery demonstrates potential for improving access (Muralidharan et al., 2016), but also reveals risks of creating new forms of exclusion (Eubanks, 2017). This connects to broader debates about whether technology can help bypass institutional constraints or whether strong institutions are prerequisites for effective technology adoption.

Technology Adoption and Local Context: Research on technology adoption in developing countries emphasizes the importance of local context and adaptation. Recent work on mobile technology adoption provides encouraging examples of technological leapfrogging. Studies of mobile money show how countries with limited financial infrastructure could bypass traditional banking development (Suri, 2017). However, research also reveals how pre-existing inequalities in education and infrastructure can shape who benefits from new technologies (Jack and Suri, 2013). Community-based learning approaches have shown particular promise in supporting technology adoption, with studies of farmer field schools (Godtland et al., 2004) demonstrating how local social structures can support skill development.

Power, Dependency, and Global Inequality: Historical analysis of technological revolutions reveals complex patterns of convergence and divergence in global development. The industrial revolution initially widened global inequality (Pomeranz, 2000), while more recent technological changes show mixed effects. Some countries have successfully used technology to accelerate development (Amsden, 1992), while others have found themselves in new forms of dependency (Wade, 2004). Digital technologies present similar tensions: while they can reduce some barriers to development, they may create new forms of "digital colonialism" through data extraction and platform dependency (Couldry and Mejias, 2019).

Recent work on technological capability building offers important insights. Studies of East Asian development highlight how countries built indigenous technological capabilities through deliberate policy choices (Kim, 1997). Research on technology transfer emphasizes the importance of not just accessing technology, but developing the capacity to adapt and extend it (Lall, 2003). The emergence of AI raises new questions about these dynamics. While AI systems are primarily developed in advanced economies, their ability to adapt to local contexts and languages might enable forms of technology transfer not possible with previous innovations.

This connects to broader debates about data sovereignty and technological autonomy. Critics argue that AI dependency could create new forms of colonial relationship through control of data and algorithms (Crawford, 2021). However, the inherent adaptability of AI and its potential to augment local knowledge rather than replace it suggests possibilities for more empowering forms of technology adoption.

This literature provides crucial context for our investigation of AI’s potential role in development. While previous work demonstrates both the promise and pitfalls of technological solutions to development challenges, AI’s unique characteristics—particularly its ability to provide interactive cognitive support and adapt to local contexts—suggest possibilities for new development pathways that merit rigorous empirical investigation.

3 Research Design 1: AI Literacy as Human Capital

Our first research design examines whether and how teaching individuals to effectively use AI tools can accelerate human capital development and reduce informational barriers to economic advancement. Building on our theoretical framework, we conceptualize AI literacy not simply as technical competence, but as a set of meta-skills that enable individuals to leverage AI for improved decision-making and problem-solving. These skills include the ability to decompose complex tasks, validate machine-generated outputs, formulate effective queries, and integrate AI suggestions into practical workflows.

We focus on urban and peri-urban youth (18-35) in Peru who possess basic smartphone literacy. This population offers several advantages for testing our core hypotheses about AI’s development potential. First, they have sufficient technical foundation to engage with AI tools but have not yet fully developed professional expertise, allowing us to examine whether AI can accelerate skill acquisition and economic advancement. Second, they face significant informational barriers to economic mobility but have access to mobile internet, enabling us to test whether AI can help overcome these constraints. Third, their diverse educational and linguistic backgrounds allow us to examine heterogeneous effects and equity considerations.

The intervention delivers AI literacy training through a mobile-first application designed to foster five core meta-skills. Task decomposition teaches participants to break complex activities into manageable components through progressively challenging scenarios, such as planning a small business or organizing community events. Information validation develops through structured exercises that challenge users to detect errors and cross-check AI-generated information, with users progressing from basic fact-verification to sophisticated output assessment. Process organization focuses on creating structured plans and timelines, while effective querying builds capacity for sophisticated AI interaction. Finally, documen-

tation and tracking teaches systematic approaches to recording processes and outcomes.

The application architecture implements these components through an adaptive learning system that responds to individual progress. Rather than following a fixed curriculum, the system adjusts difficulty based on user performance and provides personalized feedback. Community features facilitate peer learning through success story sharing and mentorship, while quality control systems ensure reliable learning experiences. This design draws on research showing how social networks and peer effects shape technology adoption in developing contexts (Foster and Rosenzweig, 2010).

Our evaluation strategy combines rigorous causal identification with careful attention to mechanisms and context. Through a randomized controlled trial, we will measure both immediate effects on AI usage capability and broader impacts on economic and social outcomes. Baseline, midline, and endline surveys capture changes in digital skills, economic activities, and subjective well-being. App usage logs provide granular data on skill development, while administrative data and qualitative interviews help understand broader impacts and mechanisms.

We hypothesize several channels through which AI literacy might affect development outcomes. In the short term, we expect to observe improvements in information-seeking behavior, decision-making processes, and task completion quality. Over time, these improvements might translate into economic gains through better job search strategies, more effective small business management, or improved resource allocation. By tracking intermediate outcomes like query complexity and error detection rates, we can map the causal chain linking AI literacy to economic outcomes.

Particular attention will be paid to equity and heterogeneity. Previous research on technology adoption shows how pre-existing inequalities can shape who benefits from new technologies (Jack and Suri, 2013). We will stratify randomization across gender, education levels, and linguistic backgrounds to ensure sufficient power for subgroup analysis. This will help us understand whether AI literacy can help level playing fields or risks exacerbating existing inequalities.

This research design enables us to test core hypotheses about AI’s potential role in development. If AI can indeed serve as a cognitive multiplier that helps overcome information asymmetries and skill constraints, we should observe improvements in both direct measures of capability and broader economic outcomes. Conversely, if barriers to effective AI use prove substantial or if benefits accrue primarily to already-advantaged groups, this would suggest important limitations to AI’s development potential.

4 Research Design 2: AI-Assisted Service Navigation

Our second research design examines how AI might reduce barriers to accessing public services by helping citizens better understand and navigate bureaucratic processes. Rather than attempting comprehensive service delivery transformation, we focus on a specific, tractable question: Can an AI-powered guide, grounded in official documentation, help citizens more effectively engage with existing government services?

The intervention consists of a specialized chatbot enhanced by RAG (Retrieval Augmented Generation) technology that incorporates official documentation about key govern-

ment services in Peru. We focus on three services with varying levels of complexity: national ID acquisition (relatively straightforward but essential), health insurance enrollment (moderate complexity with eligibility requirements), and business registration (high complexity with multiple steps and requirements). For each service, we build a comprehensive knowledge base from official documents, procedural guides, and frequently asked questions.

The system’s primary function is to translate complex bureaucratic language and procedures into clear, actionable guidance. When users describe their situation or goal, the AI helps break down the process into clear steps, explains requirements in plain language, and helps users prepare required documentation. Importantly, the system maintains clear boundaries - it helps users understand and prepare for bureaucratic processes but does not make determinations or submit applications. This limited scope allows us to test AI’s potential for reducing informational barriers while avoiding the risks and complexity of direct integration with government systems.

The technical architecture emphasizes reliability and verifiability. The RAG system ensures responses are grounded in official sources, reducing the risk of hallucination or incorrect advice. We implement multiple safeguards through explicit uncertainty acknowledgment when information is unclear, clear referrals to official sources for verification, and prominent disclaimers about the system’s role as an informational aid rather than an official service. All interactions are logged to identify areas where the AI system struggles or where official procedures require clarification.

The system provides several core functionalities designed to support citizens throughout their interaction with government services. Users receive plain-language translations of official requirements and can engage in interactive question-answering about specific procedures. The system generates customized document checklists based on user circumstances and provides step-by-step preparation guides. Throughout the process, it offers clear explanations of common pitfalls and how to avoid them, while maintaining an up-to-date directory of relevant offices and official contact points.

We evaluate this intervention through a randomized controlled trial involving approximately 2,000 citizens across multiple districts in Lima. Treatment group participants receive access to the AI system, while control group participants receive links to standard government information websites. This design allows us to measure whether AI assistance meaningfully improves citizens’ ability to navigate bureaucratic processes successfully.

Our primary outcome measures focus on concrete improvements in service access. We track whether participants successfully access their intended services, the time spent preparing applications, the accuracy of submitted documentation, and the number of office visits required. We also assess users’ understanding of processes through structured assessments. Beyond these immediate outcomes, we examine broader effects on citizen-state relationships by measuring perceived complexity of government services, trust in government institutions, likelihood of attempting to access other services, and information sharing within communities.

Our data collection strategy combines administrative data, surveys, and qualitative interviews. We track participants from initial service attempt through completion (or abandonment), conducting surveys at baseline, midline, and endline. Qualitative interviews with a subset of participants help understand how they use the AI system and where they find it most (and least) helpful. We also interview government officials to understand their per-

spective on how AI-assisted citizens differ in their preparedness and interaction quality.

This research speaks to fundamental questions about how technology might reduce barriers to accessing state services. If AI can effectively help citizens understand and navigate bureaucratic processes, it suggests possibilities for improving state-citizen interactions without requiring fundamental institutional changes. However, if informational assistance alone proves insufficient, this would highlight the importance of more structural reforms to service delivery systems.

The implications extend beyond immediate service delivery questions. By examining how AI affects citizens' understanding of and engagement with bureaucratic processes, we gain insight into whether technological assistance can enhance citizen capability and autonomy rather than simply creating new forms of dependency. This connects to broader debates about technology's role in development and state-citizen relations in emerging economies.

5 Discussion and Broader Implications

This research program examines a critical moment in technological and social transformation. As artificial intelligence becomes more capable and accessible, understanding how to harness its potential for inclusive development takes on increasing urgency. Our two interventions - one focused on individual AI literacy and another on institutional service delivery - provide concrete ways to examine whether and how AI might alter traditional development pathways.

These interventions engage fundamental questions about the nature of expertise and institutional capacity in the digital age. Traditional development theory emphasizes the slow accumulation of human capital and institutional capability, often requiring generations of investment in education and state building. AI potentially offers shortcuts through this process by providing sophisticated cognitive support at negligible marginal cost. Yet this possibility raises deeper questions about autonomy and capability building: Will AI access genuinely empower individuals and institutions to develop new capabilities, or will it create new forms of technological dependency?

Our focus on teaching meta-skills for AI interaction, rather than simple tool use, reflects these concerns. By emphasizing capabilities like task decomposition, information validation, and strategic querying, we aim to develop not just technical proficiency but genuine agency in AI interaction. Similarly, our service delivery intervention examines whether AI can enhance citizen capability in navigating bureaucratic processes rather than simply automating existing patterns of interaction.

Looking beyond immediate research outcomes, this work has implications for broader debates about technology and development. If AI can indeed serve as a cognitive multiplier that helps overcome information asymmetries and institutional constraints, it suggests possibilities for accelerated development not available to previous generations. However, realizing this potential requires careful attention to questions of access, agency, and local adaptation.

The stakes extend beyond the specific context of Peru or the particular interventions we study. As AI systems become more powerful and pervasive, understanding how to ensure they serve developmental goals becomes increasingly crucial. Whether these technologies exacerbate or reduce global inequalities may depend less on the capabilities of the technology itself than on how societies learn to integrate and govern it. Our research aims to provide

empirical grounding for these crucial policy decisions.

Ultimately, this work will contribute to our understanding of how technological change interacts with human capital formation and institutional development. By examining both individual and institutional dimensions of AI adoption, we hope to illuminate pathways toward more equitable and effective integration of these powerful new tools into development processes.

References

- Acemoglu, D., Johnson, S., and Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review*, 91(5):1369–1401.
- Acemoglu, D., Johnson, S., and Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of Economic Growth*, 1:385–472.
- Aker, J. C. (2010). Information from markets near and far: Mobile phones and agricultural markets in niger. *American Economic Journal: Applied Economics*, 2(3):46–59.
- Amsden, A. H. (1992). *Asia’s next giant: South Korea and late industrialization*. Oxford University Press.
- Anderson, J. R. and Feder, G. (2007). Agricultural extension: Good intentions and hard realities. *The World Bank Research Observer*, 19(1):41–60.
- Banerjee, A., Duflo, E., Imbert, C., Mathew, S., and Pande, R. (2020). E-governance, accountability, and leakage in public programs: Experimental evidence from a financial management reform in india. *American Economic Journal: Applied Economics*, 12(4):39–72.
- Banerjee, A. V., Cole, S., Duflo, E., and Linden, L. (2007). Remedying education: Evidence from two randomized experiments in india. *The Quarterly Journal of Economics*, 122(3):1235–1264.
- Banerjee, A. V. and Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs.
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Besley, T. and Persson, T. (2010). State capacity, conflict, and development. *Econometrica*, 78(1):1–34.
- Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., and Roberts, J. (2013). Does management matter? evidence from india. *The Quarterly Journal of Economics*, 128(1):1–51.
- Brynjolfsson, E. and McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. WW Norton & Company.
- Cole, S., Giné, X., Tobacman, J., Topalova, P., Townsend, R., and Vickery, J. (2012). Barriers to household risk management: Evidence from india. *American Economic Journal: Applied Economics*, 4(1):104–135.
- Couldry, N. and Mejjias, U. A. (2019). The costs of connection: How data is colonizing human life and appropriating it for capitalism. *Stanford University Press*.
- Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence*. Yale University Press.

- Eubanks, V. (2017). *Automating inequality: How high-tech tools profile, police, and punish the poor*. St. Martin's Press.
- Foster, A. D. and Rosenzweig, M. R. (2010). Microeconomics of technology adoption. *Annual Review of Economics*, 2(1):395–424.
- Godtland, E. M., Sadoulet, E., De Janvry, A., Murgai, R., and Ortiz, O. (2004). The impact of farmer field schools on knowledge and productivity: A study of potato farmers in the peruvian andes. *Economic Development and Cultural Change*, 53(1):63–92.
- Goldin, C. and Katz, L. F. (2014). Human capital, handbook of cliometrics. *Handbook of Cliometrics*.
- Hanushek, E. A. and Woessmann, L. (2012). Schooling, educational achievement, and the latin american growth puzzle. *Journal of Development Economics*, 99(2):497–512.
- Herd, P. and Moynihan, D. P. (2019). *Administrative burden: Policymaking by other means*. Russell Sage Foundation.
- Jack, B. K. (2013). Market inefficiencies and the adoption of agricultural technologies in developing countries. *Agricultural Technology Adoption Initiative*, 1(7):1–69.
- Jack, W. and Suri, T. (2013). Risk sharing and transactions costs: Evidence from kenya's mobile money revolution. *American Economic Review*, 103(1):183–223.
- Jensen, R. (2007). The digital divide: Information (technology), market performance, and welfare in the south indian fisheries sector. *The Quarterly Journal of Economics*, 122(3):879–924.
- Kim, L. (1997). *Imitation to innovation: The dynamics of Korea's technological learning*. Harvard Business Press.
- Lall, S. (2003). Reinventing industrial strategy: The role of government policy in building industrial competitiveness. *Oxford Development Studies*, 31(2):151–173.
- Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1):3–42.
- McKenzie, D. and Sansone, D. (2017). Man vs. machine in predicting successful entrepreneurs: Evidence from a business plan competition in nigeria. *The World Bank Economic Review*, 33(3):436–459.
- Munshi, K. (2004). Social learning in a heterogeneous population: Technology diffusion in the indian green revolution. *Journal of Development Economics*, 73(1):185–213.
- Muralidharan, K., Niehaus, P., and Sukhtankar, S. (2016). Building state capacity: Evidence from biometric smartcards in india. *American Economic Review*, 106(10):2895–2929.
- Muto, M. and Yamano, T. (2009). Impacts of mobile phone coverage expansion on market participation: Panel data evidence from uganda. *World Development*, 37(12):1887–1896.

- Olken, B. A. (2009). Corruption perceptions vs. corruption reality. *Journal of Public Economics*, 93(7-8):950–964.
- Pasquale, F. (2020). *New Laws of Robotics: Defending Human Expertise in the Age of AI*. Harvard University Press.
- Pomeranz, K. (2000). *The great divergence: China, Europe, and the making of the modern world economy*. Princeton University Press.
- Rasul, I. and Rogger, D. (2018). Management of bureaucrats and public service delivery: Evidence from the nigerian civil service. *The Economic Journal*, 128(608):413–446.
- Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, 98(5, Part 2):S71–S102.
- Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, 70(1):65–94.
- Stiglitz, J. E. (1989). Markets, market failures, and development. *The American Economic Review*, 79(2):197–203.
- Suri, T. (2017). Mobile money. *Annual Review of Economics*, 9:497–520.
- Wade, R. (2004). *Governing the market: Economic theory and the role of government in East Asian industrialization*. Princeton University Press.
- World Bank Group (2016). *World development report 2016: Digital dividends*. World Bank Publications.