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AI-LED GROWTH AND JOBS
IN THE EMERGING AND
DEVELOPING ECONOMIES

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Introduction

In the high-income countries, and especially the United States, the early evidence points toward an AI-induced shift from skill-biased to capital-biased technical change. Skill-biased technical change favors higher-skilled workers by raising their productivity and wages relative to low-skilled workers. Capital-biased technical change favors owners of capital by shifting a larger share of value added from labor (of all skill levels) to capital.

Large language models and generative AI are automating tasks in the professional heartland of the labor market, including coding and software development, customer support, marketing, consulting, law, and finance, and redirecting a larger share of value added toward capital and away from labor.[1] Wages are stagnant and the profit share of national income is rising. Young Americans are deeply anxious about their economic prospects in an AI-rich economy.

In the emerging and developing economies (EMDEs), the situation is different. There is still a vast future increase in employment ahead in skill-based jobs that AI will enhance, not displace. AI will accelerate job losses in low-skilled activities, such as subsistence agriculture and mining, where mechanization and AI will replace labor, but there will be no shortage of opportunities for decades to come in skilled jobs.

The WHO projects a shortage of 6.1 million health workers in Africa alone by 2030. Teacher-to-student ratios in Sub-Saharan Africa and South Asia remain far below what is needed for quality education. Rapid urbanization across Africa and South Asia is creating massive demand for housing, sanitation, transport, and municipal services. The logic is therefore different from the advanced-economy case: AI will raise productivity in key export sectors, including agriculture, mining, and commodity-based manufacturing, and provide the foreign exchange earnings to support the massive scale-up of education and skill-based employment in construction, healthcare, education, tourism, creative sectors, public administration, and other service sectors.

This essay sketches a new development paradigm for EMDEs in the AI era. Rather than export-led growth through labor-intensive manufacturing, which was the canonical development pathway of earlier generations, most EMDEs can achieve export-led growth through large AI-driven productivity increases in agriculture, mining, and commodity-

GDP GROWTH

Core Insight
A central structural insight is that growth in GDP and employment will increasingly diverge.

GDP Growth
GDP growth will continue strongly in agriculture, mining, manufacturing, and energy-related sectors, supported by AI and green technologies.

Employment Growth
Yet most new jobs will be elsewhere: skill-based construction, healthcare, education, public administration, tourism, the creative sector, and other urban services.

Foreign Exchange
Foreign exchange will be earned through commodity exports, commodity-based manufactures, skill-based service-sector exports, and the taxation and remittances of overseas workers.

Public Revenues
Public revenues will capture a rising share of domestic production as well as labor earnings overseas.

based manufacturing, combined with skill-based service exports (tourism, the creative industries, and online skilled labor). At the same time, AI can empower highly efficient urbanization based on digital and green technologies, as well as enormous productivity improvements in education, healthcare, and governance through AI-enabled service delivery.

This entails an AI-driven development approach that covers all four macroeconomic fundamentals: export growth, skill-based jobs, efficient urbanization, a long-term fiscal framework. Of course, I am offering only a sketch at this stage. The arguments presented here require rigorous future quantification through macroeconomic modeling adapted to EMDE economic structures, sector-level empirical analysis, and country case studies. The essay should therefore be read as a plausible and evidence-informed framework, rather than as a set of calibrated predictions.

The Impact of AI on EMDEs

The End of Labor-Intensive Manufacturing as a Development Pathway

In past generations, the canonical development model for emerging economies was export-led industrialization anchored in low-cost labor. East Asia's successes, first Japan, then South Korea and Taiwan, then coastal China, confirmed the model. Developing countries were correctly advised to establish export-processing zones, attract foreign direct investment in garments, electronics assembly, and light manufacturing, and gradually climb the value chain as skills and capital accumulated.[2]

Generative AI and advanced robotics are closing this pathway, both directly in the production process as well as in back-office operations. Labor-cost arbitrage is losing much of its relevance. Smart factories with AI-optimized production, robotic assembly, and 3D printing dramatically reduce the labor-cost advantage of locating manufacturing in low-wage countries. This does not eliminate global value chains, but changes their structure in ways that require new forms of comparative advantage.

For developing countries with a relatively large share of total employment in manufacturing, the displacement risks will look like those of the advanced economies, and the job transition will require careful management. Developing countries with a relatively high share of total employment in manufacturing (based on ILOSTAT data for 2024) include Vietnam (22%), Mexico (16.1%), and Thailand (15.8%). Most developing countries, however, have a lower share of employment in manufacturing, just 10.8 percent in South America and 7.4 percent in Sub-Saharan Africa. As a result, AI will not cause a significant loss of existing jobs in such economies, but will foreclose the labor-intensive manufacturing pathway in the future.

Resource-Based AI-Driven Growth

The closure of the labor-intensive manufacturing pathway does not mean the end of manufacturing growth in the EMDEs. Resource-based manufacturing, where proximity to raw materials confers a comparative advantage, will not only continue but will be substantially enhanced by AI. Advanced steel production (e.g. stainless steel and other specialty steels), battery manufacturing using locally mined lithium and cobalt, rare-earth processing, agroprocessing, the production of green hydrogen and advanced biofuels, are capital-intensive, resource-proximity-driven activities where AI will help to optimize production processes, quality control, and supply-chain management. Local processing of primary commodities will become financially viable with AI-optimized production. These activities will create some good jobs, but mostly will create foreign exchange earnings. Major increases in employment, however, will come elsewhere.

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WHERE THE JOBS WILL BE: THE SECTORAL DISTRIBUTION OF EMPLOYMENT IN EMDEs

With employment in agriculture, mining, and manufacturing generally declining as AI raises productivity, and labor-intensive manufacturing not expanding, where will people work? The answer is in labor-intensive and skill-based services, sectors where massive unmet demands already exists and where automation is difficult.[3]

In many African EMDEs, construction will likely be the single largest employment absorber for the next twenty years. Rapid urbanization will create enormous demands for housing, sanitation infrastructure, transport systems, public buildings, and urban energy distribution. Construction will be highly resistant to automation because it is site-specific, involves highly variable conditions, and requires physical dexterity in unpredictable environments. Modular construction with local materials can improve productivity without eliminating labor demand.

Healthcare in Africa will also require massive scale-up: community health workers, nurses, technicians, laboratory staff, and support personnel. AI will augment their effectiveness but does not replace them. The binding constraints on healthcare employment will be public financing and training, not technology. The scale-up of quality education in Africa will similarly require a massive teacher recruitment even with AI-powered adaptive learning platforms. Teachers will remain essential even in AI-empowered and online learning environments. Public administration and urban municipal services, including water, sanitation, waste management, public transport operations, and digital service delivery, will also expand rapidly in urbanizing economies.

Throughout Latin America, there are opportunities for enormous boosts in the quality of public-sector services such as healthcare, education, and social assistance, and of private-sector services including finance, tourism, wholesale and retail trade, transport, and logistics. Latin America's science-based innovation capacity will also be greatly enhanced, further the productivity gains in the bioeconomy, new energy sources, pharmaceutical development, and other areas.

In Latin American EMDEs, most employment is already in the service sector. Employment in agriculture is typically 10–20% of the total, compared with 40% or higher in many African countries. AI boost productivity and further reduce employment in agriculture, mining and manufacturing, but the main effect of AI on jobs will occur in the Latin America's service sector.

Tourism and hospitality are labor-intensive, place-bound, and growing rapidly in the EMDEs with rising incomes and global travel. The creative and cultural sectors, including fashion, music, film, cuisine, design, and the arts, are also skill-based and labor-intensive, and will be enhanced rather than displaced by AI tools for production, distribution, and audience analytics. The broader service economy, including retail, personal services, logistics, repair, and the care economy (childcare, eldercare), will absorb additional skill-based labor. The large existing informal sector in many EMDEs will also be formalized through digital payments, simplified registration, and micro-insurance, all without destroying the livelihoods it supports.

Future Growth of the Creative Economy

The creative economy, including music, film, fashion, visual arts, design, cuisine, and other cultural industries, will be a major sector for new employment and export. It is skill-based, labor-intensive, rooted in geography and culture, and increasingly enhanced rather than displaced by AI. For EMDEs, the creative economy represents an extraordinary opportunity for export-led growth and mass employment.[4]

The preliminary data are striking. Africa's creative economy is valued at approximately $60 billion and is projected to reach $200 billion by 2030.[5] Developing countries' share of global creative exports has doubled from 10 percent to 20 percent between 2010 and 2022.[6] UNCTAD estimates that creative services exports surged 29 percent to $1.4 trillion in 2023, while creative goods exports increased 19 percent to $713 billion.[7]

Nigeria's Nollywood, one of the world's largest film industries by output globally, illustrates the potential. In 2023–2024, Nollywood contributed approximately $1.4 billion to Nigeria's GDP and employed over 1 million workers, roughly 300,000 directly in film production and distribution and over 700,000 in indirect employment through craft, catering, transportation, and service roles.[8] The sector is growing rapidly: box office revenue surged 125 percent in 2024 as theatrical viewing recovered and subscription platforms expanded the market for Nigerian content. These are not precarious gig jobs. Film production generates work for dozens of specialized trades: cinematographers, sound engineers, set builders, costume designers, makeup artists, editors, colorists, and countless other skilled roles. Each successful film production is a multi-month employment engine.

Nigerian Afrobeats music exemplifies the even greater potential of the music industry. The sub-Saharan African music industry was valued at approximately $600 million in 2024 and is the fastest-growing music market globally, with revenue growth of 24 percent year-over-year.[9] Streaming platforms, particularly Spotify, have amplified African artists to global audiences: Nigerian music streaming revenue doubled in 2024 alone. Afrobeats has become a genuinely global phenomenon, with artists like Burna Boy, Wizkid, and Tiwa Savage commanding international touring revenue, streaming income, and brand partnerships that dwarf historical models of African music export. The implication: a single successful artist generates multiple income streams (touring, streaming, publishing, merchandise, endorsements) that support not just the artist but producers, engineers, session musicians, backup dancers, tour managers, and all the infrastructure of professional music creation.

India's Bollywood provides a model at far larger scale. In 2024, Bollywood generated domestic box office revenue of approximately $1.36 billion and employs over 2 million workers, from A-list actors to costume makers to tea-sellers on set.[10] India's film and television industries combined contribute approximately $2.5 billion to India's GDP and are growing 10–15 percent annually. Bollywood is not a niche cultural export. It is a major economic sector supporting massive employment.

In Latin America, the creative industries generated approximately $177 billion in economic output in 2019, roughly 2.3 percent of regional GDP.[11] Brazil alone employs approximately 11 million people in creative industries, constituting 10 percent of Brazil's total employment and contributing proportionally to GDP.[12] Latin America's fashion market, a subset of the creative economy, was valued at $34 billion in 2023 and is projected to reach $156 billion by 2029, driven by rising incomes, digital commerce, and the emergence of Latin American fashion as a global brand.[13]

Kenya's creative sector, though smaller in absolute terms, is exceptionally vibrant: creative industries account for 5.3 percent of Kenya's GDP and employ over 250,000 people across music, film, design, fashion, and digital content.[14] Kenya is a particular success case because of the intersection of creative talent, digital infrastructure (partly through mobile money innovation), and a regional market of East Africa, making Kenyan creative content accessible across multiple countries.

The critical point is that AI in lower-income settings can amplify the creative producers rather than displacing them. AI tools for production (generative design, video editing, sound design, color grading, animation) will dramatically lower the costs of entry and speed up production. AI systems

that analyze audience preferences and optimize distribution maximize reach. AI-powered analytics tell creators what audiences want and where to market their work.[15] Over 80 percent of creative professionals globally have integrated AI tools into their workflows as of 2024, using them to enhance productivity and quality rather than fearing displacement. The effect is to democratize production: a filmmaker with AI tools and a laptop can achieve visual quality that once required a large studio crew.

These are skill-based, labor-intensive, geographically rooted industries. You cannot outsource music production from Lagos to another country. You cannot easily move a film industry from Bollywood to another location. The creative economy is rooted in place and culture.[16] It requires education and training in the specific skills of creative production. But it does not require high capital costs in the way that manufacturing does. It does not require scarce natural resources. It does not require large-scale infrastructure. It requires talent, skill, some equipment, and platforms to reach global audiences.

For EMDEs, the opportunities are immense. Every country has musicians, filmmakers, fashion designers, and artists. Digital platforms, including YouTube, TikTok, Spotify, Netflix, Amazon Prime, and Instagram, provide direct access to billions of potential customers globally. The barrier to entry has collapsed. A filmmaker in Lagos can distribute globally at near-zero cost. A musician in Nairobi can reach listeners worldwide through Spotify. A fashion designer in Manila can sell internationally through e-commerce platforms. A musician in Latin America can use AI-empowered mastering and production tools to achieve studio-quality sound at a tiny fraction of the cost. The main requirement now is the skill and the cultural capital to create something audiences want to consume, and these skills and cultural capital are in ample supply.

BUILDING A VIABLE CREATIVE ECONOMY OF COURSE REQUIRES DELIBERATE POLICY.

Education & Training at Scale
First, education and training at scale in creative disciplines: film schools, music conservatories, design academies, and technical training in the equipment and platforms used in professional creative production. This is not luxury education. It is skills training for an export industry.

Intellectual Property
Second, intellectual property protection that prevents piracy and ensures that creators and rights holders capture the value of their work, both domestically and internationally.

Infrastructure
Third, infrastructure: high-speed internet, affordable production equipment access (shared studios and sound stages), and logistics infrastructure for physical goods (merchandise, vinyl, films on physical media where markets remain).

Financial Access
Fourth, financial access: micro-finance for creative entrepreneurs, and venture funding for creative startups.

Regional Cooperation
Fifth, regional cooperation: shared standards across countries so that content and artists can move freely across borders, so that streaming platforms operate seamlessly, and so that musicians can tour across multiple countries without burdensome restrictions.

The creative economy is not a substitute for agriculture, mining, and manufacturing. It employs a different skill set, reaches different markets, and generates value through entirely different channels. But it is a massive and under-recognized source of employment and export revenue for EMDEs. Countries like Nigeria and Kenya have shown that a world-class creative sector can be built from local talent and global distribution. The opportunity is to scale this model across Africa, Latin America, and South Asia.

Quality Education for All: The Key Investment in AI-Led Development

AI-led development will require skilled workers across the economy, not only to manage AI systems in agriculture, mining and manufacturing, but to support skill-based employment in the service economy. For this reason, quality education will be the single highest-return investment for long-term development. The relationship between human capital and GDP per capita across countries is tight and well-established.[17] Education raises individual productivity (with a Mincer coefficient of approximately 0.12, implying that each additional year of schooling raises earnings by about 12 percent, but of course the gains are quality dependent), induces higher business investment as firms respond to a more skilled workforce, boosts economy-wide total factor productivity through technology adoption and innovation, accelerates the demographic transition to lower fertility, improves governance, and enhances lifelong health.[18]

Yet only around 30% of children in Sub-Saharan Africa complete an upper-secondary education, and the average quality of learning is abysmal.[19] The obstacle is not political will or organizational failure. It is poverty. Providing quality education for all school-aged children requires at least 10 percent of GDP in budgetary outlays in low-income countries, and sometimes 15 percent or more, compared with around 4 percent of GDP in high-income countries. The difference arises because poor countries have young populations (a high ratio of school-aged children to working adults) and because qualified teachers are relatively expensive (a teacher with a bachelor's degree earns far more than the average worker in a country where average educational attainment is low).[20]

In Latin America, the upper-secondary completion rate is a bit higher, at around 70%, but still very far from universal. Moreover, key indicators of educational quality (such as the OECD's PISA scores) indicate poor learning outcomes on average, far below those of East Asia, and with high educational inequality linked to high inequalities of household income and social status.

AI can help to lower educational costs per student, raise educational quality, support teacher training, and narrow the gaps in educational outcomes between students in high-income and low-income households. AI-powered adaptive learning platforms can personalize instruction at scale and in local languages, substantially raising the effectiveness of each teacher. Teachers, of course, will remain essential for classroom management, motivation, socialization, and the irreplaceable human dimension of education. The implication is that massive teacher recruitment and training will be needed even with AI augmentation. Education is therefore a major employment sector as well as a productivity investment. Digital literacy at scale, not computer science PhDs but practical AI fluency for the entire workforce, is the educational content that matters most for the AI era.

A self-financing model for education. Education has an internal rate of return of at least 15 to 20 percent per annum, far above the cost of capital.[21] This means that education can be essentially self-financing over the long term if the returns are captured through taxation. The model is straightforward: the state finances education through long-term borrowing; graduates enter the labor market and pay payroll taxes on their enhanced earnings; these tax revenues repay the education debt and fund the next generation of students.

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This is, in essence, how education works in the United States. The government finances public education at all levels; graduates pay income and payroll taxes on their earnings; and the United States taxes its citizens on worldwide income regardless of residence, so the return on educational investment is captured whether graduates live in New York or Mexico City or Sao Paulo.[22] For EMDEs, this model requires two innovations.

The first is long-term, low-cost education bonds with maturities of thirty years or more, backed by multilateral development banks and assigned preferred creditor status. Modeling for a representative low-income sub-Saharan African country shows that the optimal growth policy is to borrow heavily for education, with the debt-GDP ratio rising to around 120 percent in the 2040s before falling back to zero by 2063, yielding economic growth of approximately 8 percent per annum over forty years, compared with only 4.7 percent without the education investment.[23]

The second innovation is a Diaspora Education Contribution (DEC): a payroll surtax on publicly educated citizens working abroad in high-income countries, collected through bilateral tax cooperation agreements with host countries, analogous to how social-security totalization agreements already work. The DEC would apply to citizens trained in designated professions (medicine, nursing, teaching, engineering) in public institutions. It would be capped at the estimated public cost of that individual's training, so it functions as a structured repayment of a collective investment rather than an open-ended nationality tax. Revenues would be ring-fenced in a Human Capital Investment Fund dedicated to training the next generation. The DEC would not be a penalty for emigration. It will be the mechanism by which education becomes self-financing, so that education pays for itself, not only for the individual worker but also fiscally.[24]

An Integrated Policy Package for AI-Led Development

The preceding sections have described key components of an AI-led development strategy for EMDEs. In this final section, I bring those components together as an integrated package that addresses the four macroeconomic fundamentals: productivity growth, investment, employment, and the balance of payments.

Export-led growth through AI-enhanced tradable sectors. The export base of most EMDEs will rest on several pillars. First, agriculture, mining, and commodity-based manufacturing will generate rising output and foreign exchange through AI-optimized production, precision agriculture, smart extraction, and local value addition (e.g. battery manufacturing from locally mined lithium, agroprocessing, specialty steel production). These sectors will be capital-intensive and generate relatively few direct jobs, but they will generate the foreign exchange and fiscal revenues that finance the rest of the development agenda. Second, green energy, including solar, wind, hydro, and geothermal, represents an enormous and largely untapped comparative advantage for much of Latin America, Africa and South Asia. AI-optimized grid management, smart storage systems, and predictive maintenance will make renewable energy economically compelling. Green energy will serve both domestic needs and export markets through green hydrogen, green ammonia, and direct electricity exports via regional interconnectors. Third, tourism and the creative economy will be major service exports, rooted in place and culture and enhanced by AI tools for production, distribution, and audience analytics, as described above. Fourth, skilled workers trained in public institutions and deployed overseas, including doctors, nurses, engineers, teachers, will generate remittance income and, through the Diaspora Education Contribution, fiscal revenue that flows back to fund the next generation's training. Fifth, digital work delivered remotely, including data services, business process outsourcing, and AI-assisted professional services, will continue to be a meaningful source of export earnings as digital connectivity improves across EMDEs.

AI-empowered service delivery. In health, education, and public administration, AI will not replace workers but will dramatically raise their effectiveness. AI-powered diagnostic tools will enable community health workers to screen for dozens of conditions that currently require specialist physicians. AI tutoring systems will personalize instruction at scale and in local languages, raising the effective productivity of each teacher. AI systems in public administration will streamline tax collection, land registration, public procurement, and social-protection delivery, reducing waste and corruption while expanding the reach of government services. The critical point is that these are labor-intensive sectors where massive unmet demand already exists. AI augmentation means that each health worker, teacher, or civil servant can serve more people at higher quality, but the sheer scale of unmet need, billions of people in EMDEs who lack adequate healthcare, quality education, and basic public services, means that AI will increase rather than decrease the demand for workers in these sectors over the coming decades.

AI-empowered urbanization. Africa and South Asia are urbanizing at a pace and scale without historical precedent. By 2050, Africa's urban population will roughly triple, adding over one billion urban residents. The design of this urbanization will be among the most consequential development choices of the century. AI-empowered urbanization means green, digital, smart-mobility cities with low car density. Bus rapid transit (BRT), costing $5–20 million per kilometer compared with $50–200 million per kilometer for metro systems, can provide high-quality mass transit when optimized by AI for route planning, scheduling, and demand management. Other forms of mobility as a service (such as car-hailing with self-driving vehicles) will also enable high-quality mobility-as-a-service with low car density. AI-managed distributed energy grids, smart water systems, and digital municipal services can make new cities far more efficient than the car-dependent, sprawling urban forms of the twentieth century. Construction of this urban infrastructure will itself be a massive source of employment, absorbing millions of workers in housing, sanitation, transport, and public buildings over the coming decades.

Education for all as the centerpiece. The entire integrated package depends on a massive scale-up of education. Education is simultaneously the highest-return investment for long-term growth (with an internal rate of return of 15–20 percent), the largest source of employment in the service economy (teaching is the single largest professional occupation in most countries), and the prerequisite for every other component of the strategy. AI-empowered education, including adaptive learning platforms, AI tutoring in local languages, and digital curricula, can raise quality while reducing per-student costs, but the system still requires massive teacher recruitment and training. Financing this scale-up requires the two innovations described above: long-term education bonds backed by multilateral development banks, and the Diaspora Education Contribution that captures the fiscal return on publicly financed human capital deployed abroad. These mechanisms together make education self-financing over a thirty-to-forty-year horizon.

Skill-based employment across the service economy. The employment structure that emerges from this integrated package is one in which GDP and employment are generated in different sectors. Agriculture, mining, manufacturing, and energy will account for a rising share of GDP but a declining share of employment. Most workers will be employed in construction, healthcare, education, public administration, tourism, the creative economy, and other urban services. These are sectors where demand is enormous and growing, where automation is difficult because the work is site-specific, interpersonal, or culturally embedded, and where skills rather than physical capital are the binding constraint. The transition from subsistence agriculture to skilled urban services will be mediated by the education system, which produces the trained workers the service economy requires, and by the fiscal system, which transfers the rents from the tradable sectors to finance the education, healthcare, and infrastructure that support service-sector employment.

Fiscal architecture. The fiscal system provides critical connective tissue of this development model. Revenue will come from several sources: higher royalties and production-sharing arrangements on minerals and hydrocarbons, capturing a greater share of the AI-enhanced productivity gains in extractive industries; value-added taxation that grows automatically with the formalization and expansion of the economy; payroll taxation of overseas earnings through the Diaspora Education Contribution; carbon pricing and green energy export revenues; and conventional income and corporate taxation that broadens as the formal economy expands. These revenues will finance the key public investments in education, healthcare, infrastructure, and municipal services that constitute the demand side of the employment equation. The model is therefore self-reinforcing: AI raises productivity in tradable sectors; the fiscal system captures part of that surplus; the surplus finances public services; educated workers fill the skilled service-sector jobs, raise future labor income, and increase future tax revenues.

Conclusion

AI-led development requires deliberate planning and public policy: investment codes that ensure natural-resource rents are captured by the public treasury; education finance reform along the lines described; urban planning that prioritizes mass transit over private automobile ownership; regional cooperation on energy interconnectors, creative-economy platforms, and labor-mobility agreements; and international cooperation on education bonds, diaspora taxation, and technology transfer. But the fundamental economics are favorable. AI is not a threat to EMDE development. It can be a powerful accelerant, if governments, multilateral institutions, and the private sector act with foresight to channel AI's productivity gains into the broad-based investments in human capital, infrastructure, and public services that will define whether the twenty-first century delivers shared prosperity or deepening inequality. The integrated development package that I've described, including export-led growth in tradable sectors, AI-empowered service delivery, smart urbanization, education for all, and a long-term fiscal framework, suggests a framework for making AI work for the billions of people in emerging and developing countries who stand to gain enormously in the coming decades.

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Endnotes

1. Jeffrey D. Sachs, "Early U.S. Evidence of AI Impacts on Jobs in the College-Educated Workforce," December 2025.

2. Dani Rodrik, "Premature Deindustrialization," Journal of Economic Growth 21, no. 1 (2016): 1–33; OECD, Automation of Cognitive Tasks (2024).

3. Global Future of Work | Series 4 (Africa). FII Institute (2025): https://fii-institute.org/publication/global-future-of-work-series-4/

4. UNCTAD, Creative Economy Outlook 2024: Developing Countries in the Narrative Economy (2024).

5. Brookings Institution, "The Rise of Africa's Creative Economy: From Local Talent to Global Opportunity," Africa Growth Initiative (2024); CNBC Africa, "African Creative Industries Poised for Explosive Growth," Special Report (2024).

6. UNCTAD, Creative Economy Outlook 2024: Developing Countries in the Narrative Economy (2024), Chapter 1, trade data tables.

7. UNCTAD, "Creative Economy Booms, with Services Leading Growth," press release accompanying Creative Economy Outlook 2024.

8. Businessday NG, "Nollywood Surges: Industry Contributes $1.4B to Nigeria GDP, Employs 1+ Million Workers" (2024);Nigerian Film and Video Censors Board, Industry Report 2024.

9. Turntable Charts, "Afrobeats Global Ascendancy: African Music Market Growth Analysis" (2024); Premium Times NG, "Nigerian Music Industry Revenue Surges as Streaming Transforms Landscape" (2024); Spotify, "Global Music Report 2024: Sub-Saharan Africa."

10. Storyboard18, "Bollywood Box Office 2024: Resilience and Streaming Evolution" (2024); Fincash, "India Film Industry Size, Revenue, Employment Data" (2024). Statistics from Federation of Indian Chambers of Commerce and Industry (FICCI).

11. Inter-American Development Bank, "The Orange Economy: An Infinite Opportunity" (2013, updated 2024); CSIS, "Latin America's Creative Industries: Economic Drivers and Employment Potential," Americas Program (2024).

12. FIRJAN System, "Creative Economy 2024: Employment and Growth in Brazil" (2024); Agencia Brasil, "Brazilian Creative Industries Generate 11 Million Jobs, 10% of GDP" (2024).

13. Mordor Intelligence, "Latin America Fashion Market: Growth, Trends, and Forecasts (2024–2029)" (2024); Statista, "Fashion Industry in Latin America" (2024).

14. Government of Kenya, Ministry of Creative Economy, National Creative Economy Strategy and Implementation Framework (2024); Kenya National Bureau of Statistics, "Creative Economy Sector Contribution to GDP" (2023).

15. Goldman Sachs, "AI in Creative Industries: Impact on Production, Distribution, and Audience Engagement" (2024); McKinsey & Company, "The State of AI in 2024: Adoption and Impact Across Industries," Special Report on Creative Sectors (2024).

16. UNESCO, 2025 Framework for Cultural Statistics: Digital Era Edition (2024); WIPO, "Global Brand Value of Creative Content," World Intellectual Property Report 2024.

17. Eric Hanushek and Ludger Woessmann, The Knowledge Capital of Nations: Education and the Economics of Growth (MIT Press, 2015); George Psacharopoulos and Harry Patrinos, "Returns to Investment in Education: A Decennial Review of the Global Literature," World Bank Policy Research Working Paper 8402 (2018).

18. Jeffrey D. Sachs, "The Crucial Role of Education Finance in Economic Development: A Proposal for Practical Action," March 2024.

19. N. Angrist, S. Djankov, P. Goldberg, and H. Patrinos, "Measuring Human Capital Using Global Learning Data," Nature, Vol. 592, April 2021, 403–408.

20. Jeffrey D. Sachs, "The Crucial Role of Education Finance in Economic Development: A Proposal for Practical Action," March 2024, Section on "The challenge of financing education in low-income countries," equations (2)–(5) and country illustrations for the US, Ghana, and Mali.

21. Jeffrey D. Sachs, "The Crucial Role of Education Finance in Economic Development," March 2024, Annex 1: "Calculating the Internal Rate of Return to Education," which derives an IRR of approximately 20 percent using a Mincer coefficient of 0.12.

22. The U.S. taxes citizens on worldwide income regardless of residence, and has enforced this through FATCA (Foreign Account Tax Compliance Act) and bilateral information-exchange agreements since 2010.

23. See the model in Chapter 2 of Key Actions to Drive Inclusive Growth and Sustainable Development in Africa (African Development Bank, 2024), ed. Kevin Urama.

24. Jeffrey D. Sachs, "Diaspora Education Contribution Tax" (2024), which sets out the legal structure, bilateral treaty framework, administrative design, and revenue projections for the DEC.