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AI Sovereignty in Latin America

Regional Digital Dependence and the Potential to Overcome It

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Abstract

As the artificial intelligence (AI) revolution accelerates, Latin America is on a trajectory to deepen its historical position in the global periphery, risking a new era of digital dependency. This paper examines Latin America's growing digital dependence in the era of artificial intelligence and proposes strategic pathways to achieve digital sovereignty. Drawing from dependency theory and political economy, it offers a tri-dimensional framework to assess sovereignty across hardware production, cloud infrastructure, and AI model ownership. The research reveals that Latin America is structurally dependent on foreign, primarily U.S.-based, corporations for critical AI infrastructure, including chips, cloud services, and AI models. Through extensive documentary analysis and case studies from over ten countries, the working paper highlights significant geopolitical, economic, and social risks, including exploitative trade patterns, privacy concerns under foreign surveillance laws, and algorithmic bias. It evaluates regional and national initiatives, such as Brazil's semiconductor investment plans and Chile's LatamGPT project, but finds them largely insufficient or underfunded. The paper concludes with actionable recommendations emphasising regional integration as necessary to overcome the challenges on the way to independence. Without a coordinated and sovereignty-first approach, Latin America risks deepening its historical position in the global periphery during the AI revolution.

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Introduction

Latin America is highly dependent on the global north. Much has been studied regarding the dependency relations the region relies on to maintain its economy, defence capabilities, academic production, and even media.[1] Artificial Intelligence is clearly set to disrupt these fields and thus mediate this dependence. Although AI's insertion in these areas is a recent development, Latin America's dependency has long been a topic of concern among academics and political leaders for decades and even centuries.[2] One of the grievances during the struggle for independence was the fact that, as Bolivar had already written in 1810, Americans were "destined for labour, or at best, they have no more status than that of mere consumers".[3]

It is acknowledged that the political independence most Latin American nations reached during the 19th century did not fundamentally change the economic mode of exchange with Europe.[4] During the 20th century, the US replaced the UK as the main power exerting influence across the region. American business exploited the natural resources of the whole continent, from copper mining in Chile to banana plantations in Guatemala. At the same time, Latin America was dependent on the importation of finished products, technology and capital from the USA. Although the Great Depression prompted several Latin American countries to pursue import-substitution industrialisation (ISI) to build domestic industries, by the end of WWII, the US intensified its economic and political influence, undermining these already feebly planned economic policies. US-backed interventions, such as those in Guatemala (1954) and Chile (1973), further discouraged similar strategies elsewhere. Indeed, some Latin American countries were among the first to fully—and forcibly—open their markets to foreign investors, embracing neoliberalism ahead of much of the world.[5]

The arrival of the internet showed an interesting version of Latin America's main economic paradigm. Instead of exporting raw materials and importing finished products, the region became a significant source of data for American companies that would, in exchange, offer free digital services and investments in digital infrastructure.[6] As all facets of the estate, economy and culture were digitalised,

they became more dependent on this exchange and thus, on the transnational corporations that enabled it.

Since the arrival of ChatGPT in 2022, worldwide enthusiasm for the almost universal benefits of AI have pressured countries in the region to introduce this technology as fast as possible.[7] To achieve this, Latin American countries have followed the same path as they did with the internet.[8] The AI models being used are American private models running on infrastructure developed and located mainly in the US. The training and fine-tuning of these models are carried out privately, solely under the supervision of the models' owners. This last point explains how these models' outputs reflect the values and biases of their foreign developers.

Several alarming risks emerge with an AI introduction approach that overlooks concepts of AI sovereignty. There are high economic risks caused by using mostly foreign AI technology. Firstly, it will worsen the export dependence on key raw materials needed to fabricate AI hardware. Secondly, it increases the costs of AI through prohibitive hardware prices. Furthermore, the cost of consuming AI models hosted on foreign or private clouds is up to four times higher than if they were self-hosted. Thirdly, this creates a negative feedback loop that harms the domestic technology industry, reduces the size of professionals and increases the political-economic power of elites benefiting from the dependency relation.

In geopolitical terms, the absence of AI digital sovereignty significantly exacerbates existing inequalities between developing countries and those at the global technological core. When a single or a few powerful nations become dominant AI providers for numerous developing countries, it deepens existing power asymmetries, reinforcing the core-periphery dynamic described by dependency theory. This dominance grants core countries enhanced leverage over peripheral nations, especially as deep learning and AI technologies become increasingly essential for economic competitiveness, civil governance, and military capabilities. Consequently, developing countries risk heightened geopolitical vulnerability, making digital sovereignty an urgent priority to mitigate these imbalances and safeguard national autonomy.

Furthermore, the cybersecurity risks of a lack of digital sovereignty have gained special attention since the Snowden revelations.[9] Services provided by foreign companies are subject to

foreign surveillance laws such as the U.S. CLOUD Act, which permits U.S. authorities to compel technology companies (like Google, Microsoft, or Amazon) to disclose data stored anywhere globally. As these companies further introduce themselves into the region under the banner of progress through AI, privacy and cybersecurity risks grow exponentially.

This paper provides a comprehensive critique of the region's main approaches to introducing AI and addressing sovereignty concerns. It finds that there have been scarce or weak political and private attempts to prioritise sovereignty and avoid AI dependency.

A final recommendation will be issued based on the most feasible path to achieving AI sovereignty in Latin America. Such a strategy, it is argued, would only be possible through regional cooperation and integration. The paper will present a tentative basis for a regional organisation to establish a common regulatory framework, promote joint infrastructure ventures, fund research from local institutions and support initiatives that follow an AI-sovereignty-first approach. This paper ultimately argues that Latin America's approach to AI integration risks deepening historical dependency unless regional cooperation and robust domestic policy frameworks are urgently prioritised.

Literature Review

Digital sovereignty remains a vague, often rhetorical concept.[10] This has created much discussion over the academic value of the term.[11] Indeed, much has changed since the emergence of sovereignty as a principle in the 17th century, when it first originated as a principle that defended the absolute power of a state within its territory.[12] However, the term's meaning has been affected by the material changes produced by globalisation, cyberspace, Big Data and, most recently, AI.[13] Because of this, many scholars observe a divergence in the meaning

of the word from the Westphalian State Sovereignty towards collective and individual understandings of sovereignty.[14] The confusion is worsened given that terms such as digital, cyber and technological sovereignty are often used interchangeably.[15]

A good attempt at a categorisation of policies aimed at strengthening digital sovereignty is offered by Julia Pohle. She distinguishes between the three focus points of policies aimed at strengthening digital sovereignty: the state, the economy and the individual. The state dimension follows the classical understanding of sovereignty by trying to reassert the power of the state to legislate over digital infrastructure. The economic dimension is concerned with protecting the data and technical infrastructure of national companies and fostering competitiveness and technological independence. Finally, Pohle proposes the individual dimension, which centres on digital literacy and the rights of individual users.[16] The existence of these three policy dimensions closely ties in with the aforementioned divergence of meanings of sovereignty from Westphalian sovereignty to social and individual sovereignty.

Although digital sovereignty has been a concept with growing popularity since the 1990s, Latin America has been noted as a region "curiously uninterested" in it.[17] A paper by M. Becerra and S. R. Waisbord concludes that the reason why there is an apparent lack of projects pushing digital sovereignty in Latin America lies in the small market size, geopolitical power, and weak developmental policies. They argue that only when these conditions are reversed, "the region may be able to pursue the paths of media nationalism and digital sovereignty".[18] Until then, digital sovereignty will be tied to the geopolitics of world superpowers.[19] The question of how to achieve such a reversal remains open.

The limited papers that do address digital sovereignty in the region naturally follow the categories posed by Pohle. Some argue for strengthening the state's power over digital transformations; others emphasise improving the economic dimensions of the region, while other authors emphasise the urgency of policies oriented toward protecting local customs and individuals.[20] When looking specifically at AI digital sovereignty (what has now been termed AI sovereignty),

the only article available focuses solely on the adoption of this technology by governments, disregarding the economic and individual spheres where this technology is also deployed.[21]

The advent of GenAI, kick-started by ChatGPT in 2022, has changed and accelerated the sense of urgency behind the movement to digitalise the region. More than 10% of ChatGPT users are estimated to be in Latin America, with some authors arguing that the region is surpassing advanced economies in its adoption.[22] It is estimated that businesses and governments in the region spent over $500 billion last year on AI.[23] Given the virtual lack of local providers, it is reasonable to assume that a significant portion of this money was transferred to countries where the biggest providers are headquartered. Furthermore, these countries hold control over these technologies, which are playing an increasingly major role in all spheres of politics and society. There is a need to investigate the risks of and comprehensive solutions to AI sovereignty issues in the region.

Research Design and Methodology

This research adopts a comprehensive qualitative approach to systematically assess the state of AI sovereignty in Latin America. The design combines rigorous documentary analysis and comparative case studies across three critical dimensions of AI sovereignty: semiconductor manufacturing, computing infrastructure, and AI model development. The goal is to generate an exhaustive comparative overview of government plans and private initiatives in each dimension across selected Latin American jurisdictions. Such tri-dimensional analytical framework allows for a focused, yet comprehensive evaluation of national strategies regarding AI sovereignty.

Search Strategy and Data Collection

The data collection combined primary and secondary sources in order to ensure both reliability and depth. Primary sources were prioritised, including official

government documents, national AI strategy papers, official policy announcements, and governmental institutional statements. These primary sources provided authoritative perspectives into national strategies and governmental ambitions. To complement the analysis, secondary sources such as industry-specific reports, publications from internationally recognised organisations, academic journals, peer-reviewed research papers, and credible news articles were utilised. The goal behind the integration of these varied sources was to allow for more nuance and mitigate the risks of bias inherent in relying solely on official narratives. Indeed, given the massive attention AI is currently receiving, one should be particularly cautious when taking for granted the feasibility of any government or privately led grand project announcement around this technology.

To ensure the comprehensive and systematic collection of relevant data, the research employed a structured, iterative, and multi-phase search strategy. Initially, a comprehensive scoping phase was undertaken, which involved identifying key themes and relevant keywords, critical to capturing the dimensions of AI sovereignty effectively. These keywords included terms such as "national AI plan," "semiconductor manufacturing," "cloud infrastructure," and "AI models in Latin America". The terms were translated into Spanish and Portuguese to ensure maximal coverage and accessibility to region-specific documents.

Following this, a systematic jurisdiction-specific search was conducted, focusing individually on each Latin American country. This phase utilised multiple databases, search engines and research platforms, including general academic databases like Google Scholar, JSTOR, and Web of Science, alongside more specific institutional repositories and databases such as OECD, ECLAC, UNCTAD, and official governmental websites. Government data was searched for using targeted Google searches with a country-specific filter (site:gob.[country domain]) to capture authoritative national AI strategies, policies, and initiatives. Moreover, a normal searches using traditional search engines were conducted using the identified keywords to broaden the scope to include private plans and initiatives in each country. Additionally, specialised AI-focused research tools

such as Perplexity and Consensus were integrated with traditional search engines to further enhance the breadth and comprehensiveness of the data collection process. The main sources found are shown in Table 1.

The final phase of data collection involved extensive triangulation and cross-validation. Multiple types of sources (government documents, industry reports, academic papers, news articles) were cross-referenced to ensure the consistency and reliability of findings. This phase significantly reduced potential biases and strengthened the validity of the research conclusions. This was critical to test the seriousness of project announcements and AI plans.

Analysis

Data analysis was conducted through a structured qualitative review of policy and strategic documents across the three identified dimensions of AI sovereignty. For each country, relevant documents were identified and examined to assess the presence, absence, or nature of government-led or private initiatives addressing these domains. Potential contradictions or biases arising from different source perspectives (e.g., governmental versus academic) were explicitly acknowledged and managed through cross-validation and comparative assessment. The object of the analysis was to explicitly identify current dependency levels and associated risks. This was done by examining the specificity and efficacy of governmental and private sector initiatives addressing these dimensions, and uncovering existing gaps, contradictions, and areas requiring improvement in current strategies.

Table 1. Sources used for the Analysis

Jurisdiction	Title/Initiative	Source	Year	Type
Brazil	Brazilian AI Plan 2024-2028	UNCTAD Investment Policy Hub	2024	Government Document
Brazil	Brasil Semicon Program	Brazilian Ministry of Industry	2024	Government Document
Brazil	Scala AI City Project	Scala Data Centers	2024	Private Initiative
Mexico	Master Plan for Semiconductor Industry 2024-2030	Forbes México	2024	Government Document
Mexico	National AI Agenda	OECD.AI	2024	Government Document
Mexico	Microsoft Data Center in Querétaro	Microsoft News	2024	Private Initiative
Mexico	Lattice Sovereign AI Initiative	Sintérgica AI	2025	Private Initiative
Argentina	Agenda Digital Argentina 2030	Government of Argentina	2019	Government Document
Argentina	Clementina XXI Supercomputer	Argentina.gob.ar	2023	Government Initiative
Chile	National AI Policy	Chilean Ministry of Science	2021	Government Document
Chile	National Data Centers Plan	Chilean Ministry of Science	2024	Government Document
Chile (Regional)	LatamGPT Initiative	CENIA	2025	Collaborative Initiative
Colombia	National AI Policy (CONPES 4144)	National Council of Economic Policy	2025	Government Document
Colombia	ODATA Data Center Expansion	ODATA Colocation	2024	Private Initiative
Uruguay	ANTEL Public Cloud Initiative	El Observador	2024	Government Initiative
Uruguay	Google Data Center Controversy	The Guardian	2024	Investigative Journalism
Cuba	Cuban Semiconductor Industry Development	Springer (Veltfort)	2014	Academic Paper
Costa Rica	Intel Semiconductor Assembly & Testing Facility	Intel Newsroom	2024	Private Initiative

Jurisdiction	Title/Initiative	Source	Year	Type
Panama	Semiconductor Cybersecurity Regional Initiative	Ministry of Commerce & Industries (MICI)	2025	Government Initiative
Dominican Republic	National Decree 324-24 on AI and Semiconductor Sector	Presidency of Dominican Republic	2024	Government Document
Paraguay	Semiconductor Industry Discussions with Taiwan	Ministry of Information Technologies	2024	Government Initiative
Peru	Indigenous Language AI News Initiative	Knight Center Journalism	2024	Academic/Journalism
Ecuador	Participation in LatamGPT Initiative	CENIA	2025	Interrnational Report
Regional	Latin America Index of AI (ILIA Report)	CENIA/ECLAC	2024	International Report
Regional	Data Centers in Latin America's Digital Future	UNDP	2024	International Report

Methodological Rigour and Limitations

The methodological rigour of this study was maintained through triangulation across diverse data sources and jurisdictions, detailed and transparent documentation of sources, and consistent cross-validation processes. Systematically including peer-reviewed academic journals enhanced methodological rigour by providing independent scholarly assessments to cross-validate findings from governmental and corporate documents. This approach significantly mitigated potential biases inherent to official rhetoric and corporate marketing strategies. These steps ensured the reliability, reproducibility, and validity of research findings. Nevertheless, the study faced certain limitations, including restricted access to proprietary information and internal documentation from private entities, which could potentially have provided

further nuanced insights. Additionally, inherent biases in publicly available sources posed a challenge, although extensive cross-validation substantially mitigated these limitations

Part I: The Risks of AI Dependence

Analysis of current AI-dependency

The objective of the first part of this paper is to assess the degree of digital dependence and the economic, geopolitical and social risks derived from this dependence. To analyse the current state of AI sovereignty in Latin America, special attention will be paid to the three main factors: Chip fabrication, ownership and location of data centers and ownership of GenAI models. Major conceptualizations of the AI supply chain have, until now, largely overlooked the vital role of mineral extraction.[24] These broad stages (shown in Figure 1) in which this study proposes to conceptualise the division of 'AI production ' allow us to qualify sovereignty through three distinct dimensions that draw a line from the raw mineral to the end user interface. Such a conceptualization is vital for a deep analysis as only by starting at the root can we trace the full AI supply chain and assess the degree of digital dependence and the impact the arrival of GenAI will have on it.

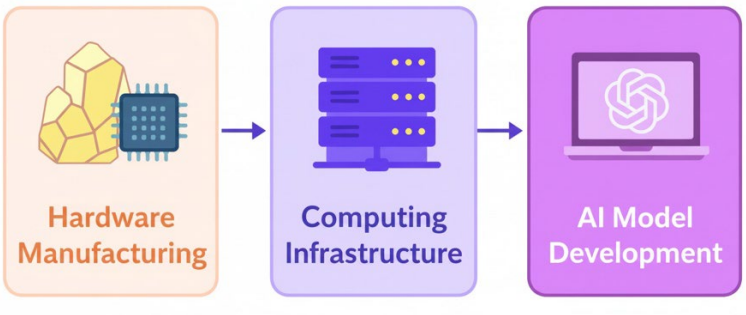

Figure 1: Latin America provides critical minerals (left), relies on foreign computing infrastructure (centre), and consumes imported AI models (right), illustrating a vertical dependency structure

Hardware Manufacturing

Although the region possesses around 40% of the world's reserve of minerals such as lithium and copper (vital for chip production), it imports virtually all the chips that it uses. At the moment, the most advanced example of a semiconductor industry is in Brazil, but the country is still the 7th largest chip importer, as its chips are many decades behind the cutting-edge and are produced at a small scale for niche applications.[25] Other examples include the Intel facilities in Costa Rica and Mexico, which solely focus on assembly, testing and packaging (ATP).[26] Practically all AI chips are imported from three American companies. [27] Nvidia alone accounts for around 65% of the AI chip market share.[28]

Cloud infrastructure's location

Only around 0,4% of the world's data centres with the computing power used to develop LLMs (Large Language Models) are located in Latin America.[29] Some may argue that this is simply due to the nature of these computing centres (called hyperscalers) being such specialised infrastructure. However, as shown in Figure 2, this is also the case when looking at the Latin American cloud in general. This data infrastructure stores the whole of Latin American digital information, including government databases, national archives, health records, educational platforms, financial systems, and many other vital information. Amazon, Microsoft and Google own around 70% of the region's cloud infrastructure.[30] Of the rest of these companies, only Huawei, which has around 6% of the market share, is not located in the US.

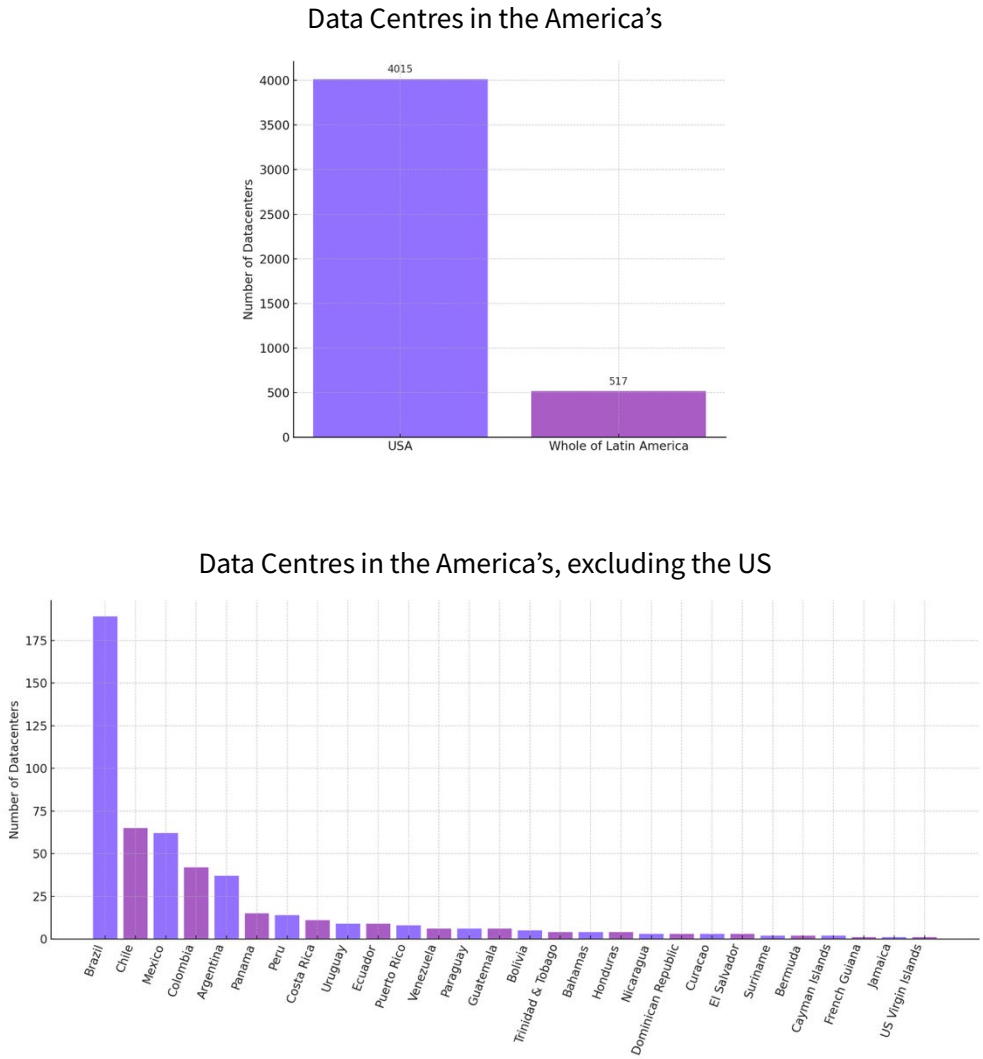

Figure 2: Distribution of Data Centres across the Americas. Author's visualisation based on data from DataCenterMap.[31]

A 2024 study further illustrates the extent of this dependence by applying Dependency Theory to the digital economy.[32] By analysing one of Latin America's

largest e-commerce platforms, Mercado Libre, the study found that even leading regional technology firms are deeply entangled in dependency structures; the platform's entire digital infrastructure is built on Amazon Web Services. This is a clear illustration of how even prominent 'local' tech giants rely fundamentally on U.S.-based infrastructure providers for their operations.

Of course, none of these businesses is headquartered in Latin America, which contributes to the up to $200 billion that developing countries lose every year through multinational corporations' tax avoidance.[33] Furthermore, not even the Latin American cloud is in Latin America. Less than 5% of these companies' data centres can be estimated to be in the region.[34] This means that virtually all of the data produced by Latin American citizens does not respond solely to any of their countries' legislation. Ultimately, this leaves Latin American countries' critical digital infrastructure, and the data hosted therein under the control of external actors.

These findings are in line with the ILIA (Latin American Index of Artificial Intelligence), one of the most comprehensive studies of AI development in Latin America.[35] It analyses qualitative and quantitative data regarding the enabling factors, R&D, adoption and governance of AI in the region. Although the index's focus is not sovereignty, it concludes, regarding computing infrastructure, that "Few nations stand out, and none possess sovereign capacity for the development of AI models".[36]

Domestic and foreign Model Ownership

When looking at AI software, the dependency becomes even more pronounced. ChatGPT and Microsoft Copilot (which is currently based on GPT-4) control 90% of the GenAI chatbot market share.[37] All non-American companies' GenAI models (such as China's DeepSeek) only account for around 1% of this figure. It is further worth noting that OpenAI's only uses servers located in the US.[38] These servers house all the private and personal information sent to ChatGPT.

The data reveals an almost absolute Latin American dependency on the United States across every critical stage of AI production. From American companies serving as the principal buyers of Latin American raw minerals to U.S. corporations dominating the fabrication of essential hardware and the ownership of generative AI models, the pattern of reliance is unmistakable. Even the infrastructure that stores, processes, and governs Latin America's digital information is overwhelmingly controlled by foreign, mostly U.S. actors. As a result, Latin American nations currently have limited control over the technological backbone that maintains their economic, social, and governmental systems.

The risks of AI dependency

Latin American dependence on the US is not limited to the case of AI or the digital age, but it has been a defining condition of their post-WWII relationship. Indeed, it was studying Latin America's inexorable underdevelopment that the field of Dependency Theory emerged in the mid- 20th century. It served as a clear explanation of why the region still could not reach the development levels promised by modernisation theorists.[39] Modernisation theory simply argued that by centring their economies on exporting commodities in which these countries enjoyed a competitive advantage, they would be eventually able to industrialise. This economic policy is still prevalent in many countries of the global south.

Dependency Theory clearly explains why such a path will never lead a Global South country to enjoy the levels of economic prosperity of the Global North. It categorises the world economy into the "core" of wealthy states and the "periphery" of economically poor countries. The countries at the periphery supply raw materials and cheap labour to the countries at the core, who, in turn, sell finished products back to the periphery at a surplus. The premium charged to countries in the periphery to import these finished products is paid at the opportunity cost of developing their own industrial capacity. Thus, a two-way reliance is put in place: a local economy dependent on the exports of raw materials and the import of capital and technology.

Many of the risks of the core-periphery dependency relations explored in this paper were already exposed even by the first dependency theorists. The implications that were quickly derived surpassed the initial goal of explaining economic underdevelopment and reached the fields of geopolitics and even sociology. The introduction of GenAI has led to a new set of factors that catalyse the dependency relation.

Economic Risks

Already in 1967, the seminal text "Dependency and Development in Latin America" by Cardoso and Faletto clearly describes the economic implications of dependence. Arguably, the three most relevant are the export reliance on raw materials, the import dependency on finished goods and the self-perpetuating nature of the dependency. These risks are being worsened by the arrival of Artificial Intelligence.

Firstly, as a country's economy becomes reliant on the exports of a few key commodities, these industries fall under the control of the international market. In many cases directly owned by foreign companies. Instead of resulting in so-called "positive spill-over effects" through technology transfer or local reinvestment, this has mainly led to a repatriation of profits earned to the US.[40] In terms of hardware production, as mentioned above, some of the most important resources are copper, lithium, nickel and rare earths; all of which are present in large quantities in the region.[41] This has already prompted much interest from foreign investors. A 2024 article from EIU, a consultancy tied to The Economist, analysing the growing demand for these minerals concludes that "the region's huge, unexplored reserves largely compensate for [the unstable regulatory environment, social unrest and corruption], making many Latin American countries more opportune choices for investors than other major producer nations elsewhere in the world".[42]

Investment in Latin American mining has already exceeded the forecasts for 2025, especially in copper and lithium.[43] For countries like Chile, these raw minerals already constitute 50% of the country's exports, with more than 70% of the mining

industry being privately and largely owned by foreign companies and investors. This is a clear illustration of what Cardoso and Faletto called the "internationalisation of the internal market", where a country's industries are controlled and shaped by global market forces. While the demand for key minerals keeps rising and Foreign Direct Investment (FDI) remains the main strategy to satisfy it, the region's export dependency is set to worsen. The profits from growing demand for minerals, as has been the case historically, will just "pass through" the peripheral nations.[44]

Indeed, contrary to the dominant modernist theories taught in many economics departments and echoed in many regional policies, there is no clear consensus on the effect that FDI has on the economic growth of the receiving country. Many studies have failed to find a statistically significant positive effect of FDI on the economic growth of Latin America.[45] Others have even identified a correlation between FDI and increased inequality, with no evidence of reverse causality.[46] And although some studies have found modest positive effects, the broader evidence makes one thing unmistakably clear: relying on FDI as the cornerstone of a development strategy is a misguided approach for peripheral nations seeking genuine economic independence and long- term growth.[47]

A second economic risk of AI dependence is a direct consequence of the other side of the dependency relation: The importation of AI hardware and software. Traditionally, raw materials have been sold to countries at the core for them to be processed and given shape into a commodity that will be sold back to the country at the periphery with a large premium. For instance, a copper wire is sold at more than a 100% margin, back to the mineral's country of origin.[48] Here, of course, very minimal processing of the raw material is involved. It is estimated that NVIDIA's profit margin for its flagship AI chip, the H100, is around 823%.[49] Such is the prohibitive margin that will have to be paid by countries seeking to build their own infrastructure with chips produced by companies from the core.

Of course, as shown above, not many Latin American countries have their own AI infrastructure. Artificial Intelligence is 'consumed' merely in its last form, that is, as a service.[50] In this case, everything from the fabrication of hardware to the

designing, training and inference of the model is outsourced. This is the business model of OpenAI through ChatGPT or Anthropic with Claude. Even then, the analysis shows that the costs for each API call to a GenAI model, such as ChatGPT, developers are paying over 75% more than what it costs to process it, already factoring in the cost of hardware.[51] That is, if such a model were just to be hosted locally, the cost of each call to the AI model could be reduced to a quarter. Again, this only accentuates old exploitative structures that have already been present for decades. As early as 1974 was synthesised by Samir Amin, an Egyptian dependency theory scholar: "through technology, central capital is in a position to dominate the industries of the Third World and draw substantial profits from them without even having to finance their installation".[52]

A third risk is the self-reinforcing nature of economic dependency, further worsened by the status quo of AI integration in the region. As enclave industries need only low-skilled labour with some basic knowledge of "prompt engineering" to consume the service, there is not much workforce skill improvement to be expected. The scarce workers and academics with an actual formation in AI can be expected, as they have been, to keep moving to countries at the core.[53] This is already making it harder for local AI initiatives to find local specialised talent.[54] Such AI initiatives will easily be outcompeted, discouraging further local innovation, as they do not serve the demands or match the supply capacity of other firms in the global market. Furthermore, domestic elites benefiting from the dependency relation (from local mining companies to local big tech platforms) will further integrate themselves into the political-economic structure of the region. In such a position, the past shows that economic coercion and political influence will be used to dissuade any initiatives towards sovereignty.[55] As the window of opportunity produced by the emergence of such a disruptive technology closes, the economic power disparities between the core and the periphery will become reinforced and ever more intractable.

Geopolitical Risks

Much attention is being paid to the geopolitics of artificial intelligence because of its power to drastically transform the power relations between China and the US.

However, the geopolitical effects of AI and AI dependence are not limited to countries in a race for 'AI hegemony'. The Snowden revelations and Wikileaks showed direct evidence of how even small countries were being subject to espionage and political intervention through the Trojan horse of inoffensive modernising digital technologies. Moreover, as the supply chain of this vital technology is bottlenecked by the US, it will affect negotiation leverage between any country and the superpower. Even direct national security could be threatened as military technology relies more on imported AI algorithms.

Introducing new digital technologies is normally campaigned for under banners of progress and modernisation, yet typically these technologies take the form of American-sold hardware and software. Edward Snowden exposed that imported American digital technologies were instruments through which the US covertly spied on or influenced global politics. In the words of Glenn Greenwald, the main publisher of Snowden's revelations: "The NSA routinely receives – or intercepts – routers, servers and other computer network devices being exported from the US before they are delivered".[56] Espionage efforts have covered countries from all over the world, including in Europe, and in Latin America.[57]

Furthermore, software by itself has also been used to directly influence politics in Latin America. In 2010, USAid covertly launched a Twitter-like social media app made to undermine Cuba's government.[58] Other more widely used American social media apps, such as Facebook, have also been platforms by which mass political manipulation was exerted through bots.[59] Although the region is by no means new to US political interventionism, digital technologies serve as a new avenue by which to streamline the monitoring and control of Latin American politics.

Another important risk of depending on a monopolistic supplier is, of course, that they have the power to close the tap if they choose to. In the case of AI, there is already a precedent for this. In 2022, the Biden Administration banned the exportation of advanced AI chips, such as Nvidia's H100, to China.[60] Similar coercive actions could be taken at any moment against any country that takes action that goes against American interests. For example, as a sanction, a nation

could be promptly banned from accessing any American AI SaaS, such as ChatGPT, or AI providers could be pressured to deny access to users from a certain region.[61] As dependency on such services deepens, just the economic effects of such a sanction would become devastating. The negotiation leverage this grants the core is enormous. Such violent use of leverage to control another country's policies has been termed "Weaponised Interdependence".[62] Threats like this will influence Latin American countries' political decisions, further tying them to US interests.

Finally, dependency on externally controlled AI could worsen the prospects of peace in the region. As the current world conflicts are showing, those who use artificial intelligence in their armed forces experience a remarkable advantage. This security dilemma is already pressuring Latin American defence forces to introduce AI into their military capacity with urgency.[63] With the US being the biggest arms exporter in the world, it is not hard to imagine it taking advantage of the opportunity of being the world supplier of military-grade AI. Indeed, new American AI-based military companies such as Palantir and Anduril are growing at an astonishing speed by leading the way in AI-assisted battlefield decision-making and autonomous drones. Even OpenAI has reportedly partnered with Anduril and the American military.[64] The software sold by these companies is proprietary and, many times, remotely administered. The national security risk of importing AI technologies into their armed forces is thus huge. As illustrated above, the US government has utilised its technological exports to advance its national interest, even against allies. This opens the possibility of, for instance, the American government tapping into the data collected by a drone sold to another country or even altering its functioning to steer the results of a conflict. If countries do not prioritise AI sovereignty, the prospects of conflict in the region and their outcomes will be further mediated by American interests.

Social Risks

Civil society can also be severely affected by AI dependency, worsening social issues already present with other digital technologies. Firstly, the fact that AI models are designed, trained and supervised by foreign agents inevitably leads to

algorithms that do not completely fit the local population's needs and characteristics, i.e., algorithmic bias. Secondly, the Snowden revelations and Wikileaks show that the NSA is not only interested in spying on prominent figures, but on as many people as they can reach. The third risk comes with the fact that with the importation of technology comes the importation of culture. Indigenous nations have been subject to cultural displacement through technology for centuries, further worsened by the aggressive opening of markets characteristic of the neoliberal era. However, the risk of losing local culture is present everywhere where a technology is imported. AI dependence affects everyone.

Data Origins and Bias

Whoever owns a model decides what data it will be trained on. The data used to train these models directly correlates with the model's biases. Most of the training data used for ChatGPT comes from English-speaking countries. This fact explains the bias it has expressed in favour of countries in the global north and how the model also performs better in this language.[65] Furthermore, ChatGPT's outputs reflect nationality biases, often portraying countries in a more positive light when they are from the global north.[66] This bias is consistent across different languages, suggesting that the model was able to abstract this bias from the languages it learnt it from. It also showed biases in recruiting geographically diverse software teams, assigning certain roles to users from specific countries.[67] Healthcare applications of AI have shown ethnic and racial biases against, among others, Latinos.[68] Given all this, it is no surprise that some Latin American scholars have described ChatGPT as having "the values of a white, college-educated man from the U.S. West Coast".[69] Although this is not necessarily the group of people who developed the model, this is the demographic of the group that owns it.

Cultural influence

Indeed, importing goods is importing values. Such is the case, too, with digital goods. This is not new to indigenous groups who have faced cultural displacement for centuries, or even the whole of the continent, as it aggressively introduced the first neoliberal reforms of the world.[70] These reforms flooded markets with American products and culture, from supermarket chains to

English-language media. Social media further accelerated this trend, pushing younger generations toward English-dominated content. A similar process can be expected just through the use of American GenAI models. Personal interactions with language models will lead users to subconsciously conform to the values embedded in these models. Those who speak rare languages will be forced to interact with the model in languages where it performs better or be at a disadvantage. Furthermore, image, voice, and video generation models are already flooding the internet, competing with local content. Ultimately, it is not hard to imagine a future where the digital space becomes primarily an outlet for media produced by the core, aided by their AI models.

Privacy

The aforementioned NSA's espionage has not been limited to prominent political figures. The scale of the program reveals that millions of Latin Americans may have had their emails, phone calls, and internet traffic spied on at some point. American law allows for such measures through, for example, the CLOUD Act. This law requires any company headquartered in the US to allow the government to access any data they store, including that from non-American citizens. This grants the American government access to personal, business or government information sent to the AI models as context. As these language models become increasingly human-like, people are more willing to share personal information.[71] Such information could be used, in turn, as part of the larger mass manipulation strategies by influencing the user's political opinions.

Thus, the current model of AI implementation in Latin America is at risk of negatively affecting the region's population. Algorithmic bias can be expected from models trained with a comparatively small amount of data on the Latin American population and under the supervision of people foreign to the region's cultural reality. Furthermore, as any data used to interact with a model is necessarily sent to the core, it is subject to foreign surveillance. Lastly, the interaction with these models leads to the inevitable absorption of the values of their provenance and could become an avenue for mass manipulation. Sovereignty is not a principle limited to the high spheres of geopolitics or

economics; its upholding —or lack thereof— will be ultimately felt in all parts of the region, from the large megalopolis to remote rural areas.

Part II: Evaluation of AI Introduction Initiatives

Given the size of the risks of continuing to pursue the current model of AI implementation, it can be expected that equally sizeable public and private initiatives have been established to address them. This section will critically analyse the main initiatives and available AI policies of each nation through the lens of AI sovereignty. The evaluation will inquire into the extent to which they have the capacity to reverse dependency at the level of the aforementioned categories, i.e. chip manufacturing, infrastructure and AI models ownership.

Hardware Manufacturing

The semiconductor industry has long been dominated by Taiwan, China and the USA. Until very recently, the commitments of Latin American governments towards domestic chip manufacturing were scarce if not absent. In 2020, the exponentially increasing demand for PCs was paired with worldwide chip shortages, exposing the fragility of the semiconductor supply chain.[72] Similar shortages are forecasted in the future due to the rapid AI-driven increase in demand and Taiwan's unstable geopolitical position.[73] The importance of a more stable chip supply chain prompted the USA to announce investments to develop semiconductor ATP projects in Mexico, Panama and Costa Rica. To secure these funds, countries have announced huge plans to decrease regulations and invest in infrastructure. Mexico is the most notable, as it plans to use this investment to leverage an eventual fully integrated domestic semiconductor manufacturing industry. Moreover, Brazil and Argentina have expressed intentions and taken some steps towards developing their own national and even cooperative

binational semiconductor industry projects. This section will analyse these and the other relevant efforts toward chip sovereignty.

To provide a comparative overview of the region's current positioning, Figure 3 visually classifies Latin American countries according to their level of engagement with semiconductor supply chain development. The map illustrates four categories: countries actively competing for big tech contracts (such as Mexico and Panama), those beginning to explore entry into the semiconductor space (including Peru and Uruguay), countries attempting to build sovereign semiconductor capacity (notably Brazil and Cuba), and those for which no official strategic initiatives have been identified. This visual typology contextualises the diverse approaches to semiconductor policy in the region and serves as a reference for the national cases examined in the following analysis.

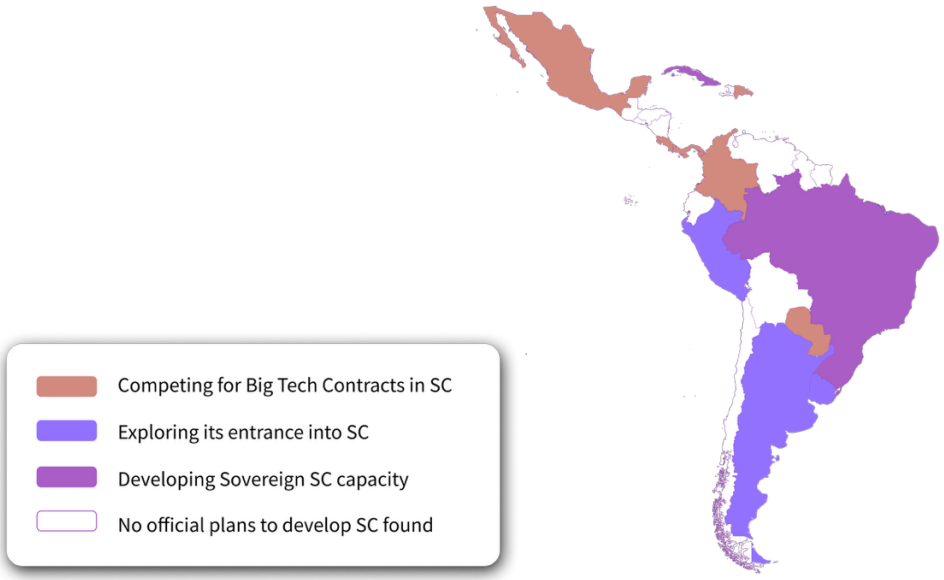

Figure 3: Latin American Semiconductor Strategy Typologies
Countries are categorised according to public strategic plans and observable industrial policy actions relevant to the semiconductor supply chain (SC), ranging from foreign-dependent participation to sovereign development efforts[74]

During 2023, Mexico developed the "Master Plan for the Development of the Semiconductor Industry in Mexico 2024-2030" under the guidance of the USA.[75] Although it is described as a "collaboration", the actual plan reveals an acceptance of dependence. The role that the Mexican government or domestic companies will play is minor. Currently, the government is merely moving to streamline semiconductor patents in an effort to encourage domestic chip design innovation. But, as some literature has already proposed, technology transfer strategies based on patents are not enough to encourage Latin American innovation.[76] Moreover, while the monetary commitment from the Mexican state has not been made public yet, its limited financial capabilities will be compensated through American private investment rather than regional cooperation. Furthermore, the final aim of this project is merely to create simple "legacy chips" for automobiles and small household electronics, rather than those used in data storage or HPC (High Performance Computing) facilities.[77] Thus, the dependency relation is at risk of continuing, as Mexico gets a marginal portion of the profits, still imports the hardware necessary for AI and digitalisation, and the costs of developing a sovereign digital infrastructure remain prohibitive.

Brazil is the only country in Latin America with a traditional front-end semiconductor fab that produces integrated circuits from silicon wafers. It is operated by CEITEC S.A., a state-owned company with the capacity to design, manufacture, assemble, test and package semiconductors.[78] Currently, the plant is only able to produce low-grade integrated circuits primarily for niche applications such as sensors and smartcards. However, the recent government's "Brasil Semicon Program" aims to modernise the infrastructure and give a new push to the industry through tax exemptions and subsidies.[79] It is part of "Nova Indústria Brasileira (NIB)", a 10-year plan to digitally transform and industrialise Brazil. The state plans to invest more than $6 billion in its semiconductor industry in the coming years, with over $4 billion targeted by 2026 and around $1.2 billion annually in ongoing incentives.[80] However, the project is also highly dependent on a large portion of FDI to reach the $37.3 billion target, which raises similar issues as with the Mexican case.[81] This was not the only path considered to solve the need for capital. In 2023 were talks of a possible binational cooperative

semiconductor project with Argentina, but no official announcements have followed.[82]

Cuba has been developing a sovereign semiconductor industry since 1967. Now the country is able to "design complete integrated circuits and much in the way of complete semiconductor apparatus".[83] In fact, it was in this country that the first semiconductor device was ever made in Latin America, all with local talent and facilities.[84] The country has also imported many semiconductor manufacturing machines during the last years, indicating a possible expansion in capacities.[85] However, the severe embargo is an almost insurmountable challenge that, despite the impressive advancements made so far, will keep dragging the country's technological development.

The efforts led by Panama, Costa Rica and the Dominican Republic are limited to posing themselves as better candidates to 'get a piece' of Intel's testing and packaging contracts in Central America.[86] In 2015, Intel produced 20% of Costa Rica's national exports, before it announced a partial closure of its facilities, causing a huge blow to the country's economy.[87] Still, a similar strategy is followed by Colombia,[88] and Paraguay.[89] Other countries, such as Peru and Uruguay, are just starting to evaluate the benefits of establishing a domestic semiconductor industry.[90] No serious domestic initiative has been proposed by these countries to encourage participation in the stages of the supply chain that produce more value added, such as design or manufacture.

Currently, no initiative or official plan will directly lead Latin America towards AI chip sovereignty. Although the efforts in Brazil and Mexico are significant, they are at high risk of leading to new enclave industries due to their reliance on FDI. There are, evidently, hard financial barriers towards developing an advanced semiconductor industry from the ground up, especially if trying to avoid foreign direct investment. However, such challenges as these, as will be argued in a later section, can be addressed through deep regional cooperation. Instead, each country's efforts are atomised, with any 'cooperation' being directed to the core. Only a serious political commitment to regional integration and economic

independence can offer Latin America a chance to move significantly towards chip sovereignty.

Cloud infrastructure's location and ownership.

Although, until at least the near future, chips themselves will have to be imported, there is still much to be gained from developing a local digital infrastructure. HPC centres are critical infrastructure needed to train and run AI models, while data storage facilities host the region's data, needed to train such models. Big Tech companies are fully aware of the need for more data centres worldwide. As Guatemalan human rights lawyer Avila Pinto states, the periphery is "the disputed territory of tech empires, because whoever gets them locked into their digital feudalism, holds the key to the future".[91] The tech sector has already invested over $2 billion in 2024 to build new data centres in Latin America.[92] However, when evaluating the available AI policies in the region, the findings of this paper are in line with the UN's Economic Commission for Latin America and the Caribbean (ECLAC) recent report, which also pointed out the lack of attention that computing power received.[93] There is still some significant political will towards increasing the size of the local data infrastructure and HPC centres. However, the main strategy to achieve this in many countries, such as Colombia and Mexico, is to further depend on the private Big Tech investment and encourage it through tax breaks and decreasing regulation, effectively accepting a dependent role in exchange for quick gains in capacity. Others, such as Brazil and Argentina, are making some effort to tip the scales toward sovereignty by investing public funds and requiring local control where possible. Such initiatives are reviewed in this section.

Brazil leads Latin America in digital infrastructure and shows political will for digital sovereignty. It hosts 37.2% of the region's data centres, including the largest—Ascenty's Vinhedo facility near São Paulo (61 MW). Brazil also tops computing capacity with eight supercomputers in the global TOP500, including the Santos Dumont system, the region's largest research supercomputer until 2020. Petrobras, Brazil's state oil company, is investing heavily in HPC, acquiring

five new supercomputers totalling about 73 petaflops, expected to be the most eco- efficient in Latin America by the end of 2025.

The Brazilian government launched an ambitious Brazilian Artificial Intelligence Plan (PBIA) 2024-2028 titled "AI for the Good of All," with a total investment of around $4 billion over four years.[94] This Brazilian National AI plan is remarkable in its emphasis on reducing external dependence, moving towards AI sovereignty and even strengthening collaboration with other periphery countries. Although these goals are extremely positive, the policies still fall short and even risk subsidising dependency. Under $1 billion is allocated to developing AI infrastructure, including high-performance computing resources, national data centres, and sustainable energy infrastructure for data centres and AI installations. About a third of this money will be invested with the aim of turning the Santos Dumont supercomputer into one of the top 5 globally. However, much of the rest of the funding is intended to act as a catalyst for FDI, with most of it being granted in the form of public credit lines. These often require recipients to be revenue-positive, which naturally favours private, established, and often foreign-linked entities. The result of such a funding scheme is a very likely foreign ownership structure of these new assets, which would merely perpetuate and reinforce Brazil's digital dependency relation.[95]

In 2019, the government of Argentina introduced its National AI Plan, aligning with the "Agenda Digital Argentina 2030". While the plan does place some emphasis on digital sovereignty principles, its implementation has been limited, and it remains a consultative document without formal adoption by subsequent administrations.[96] However, one big achievement was the deployment of Clementina XII HPC in 2023, a state-owned facility forty times more powerful than previous Argentine systems[97]. In parallel, Argentina's state-owned telecom, ARSAT, operates the National Data Centre in Buenos Aires (Benavídez), a Tier III facility that hosts government data and cloud services. Currently, the country faces the risk of privatisation of such significant AI infrastructure, as the president has already announced intentions of liquidating ARSAT.[98] If the company is privatised, it would most likely end up in mostly foreign hands, as has historically

been the case in the region.[99] Furthermore, the current government's plans regarding the development of AI infrastructure, such as nuclear-powered data centres in Patagonia, rely completely on FDI.[100] If realised, Milei's vision would starkly illustrate the need for political structures that reduced the fragility of sovereign digital capacities under the region's shifting political agendas.

Mexico's AI hardware development is also heavily FDI-driven, with foreign firms like Microsoft leading virtually all data centre construction projects. Although over 12% of Latin America's data centres are in Mexico, almost all of them are under foreign control.[101] Microsoft's $1.3 billion investment in Querétaro's Azure cloud region shows the country's clear dependency on foreign capital to develop its digital infrastructure. While a 2024 National AI Agenda proposes a multisectoral strategy, implementation remains nascent, and the country lacks a formal national AI plan.[102] The government is currently just playing a supporting and regulatory role rather than leading on any AI infrastructure development.

Colombia's 2025 National AI Policy (CONPES 4144) prioritises ethical governance and local capacity building,[103] yet its data centre expansion is dominated by ODATA, a subsidiary of U.S.-based Aligned Data Centres. ODATA's $1.3 billion investment in two hyperscale facilities (144MW total capacity).[104] While the government has repurposed an underused data centre into a 130-teraflop supercomputer, the largest AI-ready data centres remain foreign-owned.[105] Colombia's model, rather than building sovereign capacity, also entrenches dependency under the guise of modernisation, with ethical aspirations outpaced by the scale and ownership of foreign- led infrastructure.

Although the Chilean cloud is also virtually completely foreign-owned, regarding HPC, Chile adopts an arguably more sovereignty-oriented approach through its 2021 National AI Policy and 2024 supercomputing program. The state-funded National Laboratory for High-Performance Computing and $7 million annual grants for AI-focused R&D projects aim to reduce foreign dependency.[106] However, the state aims to attract $2.5 billion with its National Data Centres Plan, relying on foreign investors, albeit with some requirements for public-private collaboration.[107]

This dual-track strategy ultimately reveals the contradictions at the heart of Chile's AI infrastructure policy. While the state rhetorically embraces sovereignty through its supercomputing investments, the overwhelming reliance on foreign capital for cloud and data infrastructure undermines these goals. Public-private collaboration requirements offer limited safeguards, but they do little to alter the fundamental imbalance of power.

All other countries in Latin America combined only represent less than 20% of the computing power of the whole region.[108] Although this disparity poses a significant risk in itself, as smaller countries develop their digital infrastructure, they can avoid falling into the patterns of dependency seen in their regional peers. Uruguay is moving in this direction, with plans for a national cloud service backed by its state-owned telecom ANTEL, and a growing public data centre infrastructure already operational since 2016.[109] The Uruguayan public has also resisted Google's plans to build data centres in the country.[110] If Uruguay succeeds in building a sovereign digital ecosystem while pushing back against extractive foreign infrastructure projects, it could serve as a model for other smaller nations in the region, proving that autonomy is not just a luxury for the big players but a viable path for resilient and independent digital development.

There is still an extremely high risk of a growing foreign private control over Latin America's digital infrastructure. The computing capacity of the region is expected to grow exponentially,[111] but Latin Americans will see little benefit from this growth. Any efforts made by governments to develop domestically controlled infrastructure, either by these peripheral governments or local businesses, are being overshadowed by the overwhelming investments coming from the core. This is not a new trend. Almost a decade ago, Avila Pinto argued that "These companies are providing critical infrastructure for citizens in exchange for their personal data and becoming recipients of advertising. In most of the countries, neither the government nor private investors can compete with the speed and resources these major companies have".[112] The establishment of local data centres by foreign firms is not an opportunity investors have graciously given to the region, but a new form of "data colonialism" although data centres physically

sit in Latin America (using local power, sometimes even local public incentives), the profits and control flow back to Silicon Valley or Seattle headquarters.[113] A massive risk, thus, can also be inferred from the participation of the media and government communications in framing Big Tech projects in terms of 'development of local capacity'. Scarce problematisation of these issues can be noted from the available official policies and National AI plans, and media reception of Big Tech projects. Thus, if such continues to be the avenue pursued by the region, digital colonialism will quickly become the new mode of exploitation rather than a way towards the development of Latin America.

Model Ownership

No Latin American country has developed a GenAI model that competes on the global stage. That, however, should not be the objective. It is serving Latin America, with its own cultures, values and needs, that should be the aim of any Latin American AI. Some projects, such as LatamGPT, have understood this and are working to develop a language model capable of representing the region's uniqueness, using both local data and infrastructure. Many other such projects, in image and video generation, audio and other media are being planned or are on their way to being released. This section will review and critically evaluate the development and ownership of the most prominent AI models across the region.

Although led by Chile's National Artificial Intelligence Centre (CENIA), LatamGPT is the product of a large pan-Latin American collaboration.[114] It is an open-source 70-billion-parameter model designed to show the path towards AI sovereignty. It will reflect the region's linguistic diversity and cultural context and reduce bias. This broad collaboration includes universities, foundations, libraries, government entities, and civil society organisations from Chile, Uruguay, Colombia, Mexico, Peru, Ecuador, Spain, Argentina, and Costa Rica. It was trained on a cluster of Nvidia's H200 funded by a public Chilean university. Unlike commercial models that scrape the internet indiscriminately, LatamGPT employs a more methodical approach to data gathering. The project has accumulated over 8 TB of text information through direct collaboration with content providers across the

region.[115] Although it has not been released yet, it is already unprecedented in its goals and development. LatamGPT sets an example that could inspire other initiatives outside LLMs, such as image, video and audio generation. It is a case of how, through regional collaboration, the financial and structural barriers of AI development can be surmounted without needing to resort to foreign capital.

Brazil is notably seeing a host of LLM projects being developed as private —and maybe soon public— projects. Brazil's R$23 billion (USD 4.6 billion) AI investment plan (2024–2028) includes developing Portuguese-language models to address linguistic gaps in mainstream AI tools, but no such model has been announced yet. In the private sphere, Maritaca AI's "Sabiá" series is the first major commercial LLM platform in Brazil. Sabiá-3 reportedly matched GPT-4- level accuracy on a battery of 64 Brazilian exams.[116] The agenda here is both commercial and sovereignty-driven: Sabiá is offered as a paid API service to Brazilian companies and institutions, providing a local alternative to ChatGPT that is 10× cheaper per token (according to its creators) and attuned to Brazil's education, law, and health domains. However, the route it took for its funding was not the same as LatamGPT's, as its development and training were funded by VCs, such as Google.[117] This is an example of how, in the absence of robust public or regional funding mechanisms, even the most locally attuned platforms may become vessels for foreign influence, constrained by the strategic interests of their backers. If Latin America is to chart a genuinely independent course in AI, it must prioritise the creation of homegrown financing ecosystems that can support innovation without external strings attached. Without such reforms, efforts like Sabiá may offer only the façade of autonomy—digital sovereignty in name, but not in practice.

A promising Mexican private project branded as "The First Sovereign AI of Mexico and Latin America"[118] was launched in early 2025. Lattice is a family of fine-tuned versions of DeepSeek with solely regional data, although the scale of the project (in terms of data used) is much smaller than LatamGPT. This projects shows first-hand evidence of the grievances stopping similar initiatives: the urgent need for local infrastructure The choice to finetune rather than develop a whole new model

is justified by the fact that: “Data centres in the region still do not offer sufficient capacity or competitive rates for large-scale training, forcing the use of foreign clouds and moving data out of jurisdiction”.[119] Lattice also shows us that the pursuit of AI sovereignty is not solely state-led; the founders even claim to have rejected American funding in order to “maintain is commitment with Mexico and Latin America”. [120]

There are many smaller examples that show the population’s need to customise AI to fit the region’s cultural and idiomatic needs. One grassroots example is PeronIA and Carpincho, two versions of LLaMA-2 (13B) finetuned with Argentine data to respond in Argentine slang and tone.[121] This need is also seen in indigenous communities. The National University of San Marcos in Peru developed a virtual newscaster avatar who presents weekly news in Quechua (an indigenous language), although using foreign tech for it.[122]

Projects such as LatamGPT and Lattice evidence the region’s need for sovereign large AI models, but such initiatives are largely absent in National AI policies, other than the case of Brazil. However, in this case, the project remains to be put into execution. Overall, research and development are given less of a relative focus than in the core countries, as is also identified by the ECLAC.[123] Rather, much emphasis is put on the responsible usage and implementation of AI, which goes unsaid, would mainly be imported. From this point of view, the region’s AI policies could be read as accepting the dependency on foreign cutting-edge technology with no concrete aspirations to reverse this.

While promising, the region’s few sovereign AI projects severely lack funding, support and infrastructure. With such an environment, it is unsurprising that, though the underlying technology has been available for several years, the region’s AI model output has been so low compared with Asia, North America or Europe. Projects that could lead the way towards AI software sovereignty are at risk of lacking the required resources to progress and keep up the quick pace of advancements in the field. Independent local initiatives can only go so far if nothing is done to reduce such risk, without having to resort to foreign capital.

The analysis presented in this section clearly demonstrates that Latin America's current initiatives toward AI sovereignty fall significantly short of what is necessary to genuinely alter the existing dependent relationships. Government policies and private sector initiatives remain largely superficial, offering only incremental steps rather than transformative solutions to the region's underlying sovereignty challenges.

Semiconductor industry plans, while noteworthy in countries like Mexico and Brazil, remain fundamentally unambitious. They risk creating isolated enclave industries heavily dependent on foreign direct investment, effectively perpetuating technological dependency rather than mitigating it. Moreover, most initiatives largely aim at low-value segments of the semiconductor chain, ignoring or sidelining aspirations towards more advanced and strategically valuable chip production.

Equally troubling is the pervasive narrative, propagated both by governments and amplified by media, that frames Big Tech investments as beneficial "development" and "capacity building". This portrayal dangerously misrepresents the reality of digital colonialism, wherein critical digital infrastructure physically resides in Latin America, but profits, control, and strategic decisions continue to flow exclusively to foreign entities. The positive framing of foreign extractivism in the National AI policies follows the long tradition of modernisation theory, which believed that such activities would lead to eventual economic growth and economic diversification. The role of the state under this paradigm is just to create favourable conditions for foreign investments, even if that comes at the high costs already mentioned. However, as already identified by Cardoso and Faletto in 1967, this approach is precisely what maintains Latin American productivity and economic growth artificially subdued.[124] Even policies that invoke the rhetoric of sovereignty and economic independence cannot seem to fully escape this logic. Brazil stands as an example, actively challenging cloud sovereignty issues, with substantial foreign ownership remaining embedded within national infrastructure projects. Unless the utter failure of modernisation theory in the region is acknowledged and overcome,

even policies targeted towards sovereignty will see themselves riddled by similar contradictions.

Finally, despite notable regional collaborations like LatamGPT and promising local projects such as Mexico's Lattice, AI software sovereignty initiatives lack the essential financial and institutional support needed to thrive independently. Absent significant regional cooperation and substantial public investment, Latin America's potential for developing genuinely autonomous AI technology remains severely constrained.

Latin America's approach to AI sovereignty remains fragmented and largely symbolic. The region must urgently reevaluate and deepen its commitment to fostering genuine technological independence, prioritising regional cooperation and strategic public investment to prevent digital sovereignty from becoming mere rhetoric rather than reality.

Part III: Challenges and Recommendations

The most pervasive argument against digital sovereignty points towards the lack of intellectual resources, institutional stability and financial capital. Such are the challenges raised by Renata Ávila Pinto in her essay "Digital Sovereignty or Digital Colonialism".[125] However, these challenges are not at all insurmountable. Indeed, regional cooperation has already been widely discussed as a solution that could, furthermore, lead to many other synergies.[126] The nature of such challenges and the necessary collaborative effort to solve them will be discussed in this section.

Challenges

At first glance, any ambitious project targeted towards the development of advanced technology in a periphery region such as Latin America would be discarded as unrealistic. A severe lack of financial capital, infrastructure, and intellectual resources are defining conditions that challenge any path towards AI sovereignty. Furthermore, dependency theory warns us about another obstacle on the way to economic independence: resistance from the benefiting elites and external actors. Although this last challenge could be argued to have been historically the hardest to overcome for projects that have aimed for economic sovereignty, it, too, can be addressed through the collective bargaining power gained through integration. The following are the challenges on the way to AI sovereignty.

Lack of Financial Capital (public or private)

The first and most crucial material challenge towards developing sovereign AI is, of course, the lack of capital, both private and public. Centuries of economic extractivism have produced an economic model with little to show. High fiscal deficits, foreign debt, and low local public sector growth have been defining

characteristics of the Latin American economy. Fiscal constraints are exacerbated by the burden of sovereign debt, IMF austerity conditionalities, and credit-rating agencies that penalise countercyclical or state-led spending. On the private side, Latin America's venture capital landscape is still nascent and conservative. Most investors prefer quick returns and shy away from the long-term, high-risk investments that AI development demands. The result is an ecosystem where even the most promising private AI initiatives must look northward for funding, thus creating new dependencies at the very moment they seek independence.

Legal architecture

The region's legal architecture has also been raised as a limiting factor towards the research and development of local innovations.[127] Treaties signed between the periphery country and those at the core, such as the TPP, TTOP and TISA, artificially restrict intellectual exchanges to innovate through their protection of the global north Intellectual Property (IP). Similar treaties are also signed between periphery countries and MNCs from the core, known as Bilateral Investment Treaties (BITs). All these treaties solidify foreign corporate power. For instance, many include investor-state dispute settlement (ISDS) mechanisms, which allow corporations to sue states over regulations that affect their expected profits, including nationalisations or data localisation mandates. To date, around 70% of ISDS cases have been won by investors.[128] Latin American countries have paid over $33 billion in ISDS awards since 1996, with pending claims totalling much over $60 billion.[129] To put this figure into perspective, it is estimated that building an advanced semiconductor fab from the ground up would cost around $20 billion.[130]

Many of these ISDS cases originate from BITs signed to grant and promote FDI, with the hope of promoting development. However, as a report from the International Institute for Sustainable Development states: "In general, BITs between core and peripheral countries do not include binding clauses that could be of special interest for the latter, such as labour, migration, environment and human rights clauses. Neither do they include clauses providing special or differential treatment, with mechanisms and explicit support from developed

countries to level up the production and living conditions in developing countries".[131] The main purpose of these treaties is to secure and solidify the dependency status of the host country.

Moreover, the threat of ISDS lawsuits is extremely effective at stopping governments from establishing regulations that go against foreign companies' interests, a phenomenon known as "regulatory chill". Colombia, for example, backtracked on declaring a cancer drug a public good after Novartis threatened arbitration.[132] Regulatory chill could be a barrier towards establishing AI sovereignty policies.

There is no easy way out of these legal agreements. In the case of BITs, there are normally 'survival clauses' which protect investments made before termination for an additional period (often 10–20 years) after the treaty ends.[133] Ecuador, Venezuela and Bolivia have officially terminated most of their BITs but are still under these clauses.[134] Unlike BITs, trade agreements between countries generally do not include survival clauses, though legacy investment claims may persist for a limited time. Termination avoids future liability but does not nullify pre-existing obligations.

Lack of resources

There is also a big gap in local expertise regarding the fields of AI development. The expenditure on R&D from Latin American companies and governments is much smaller compared to that from the global north. Meanwhile, local universities and research institutions are underfunded, disconnected from industry, and often excluded from international collaborations dominated by Anglophone institutions.

Moreover, linguistic and epistemic exclusion play a critical role. Much of AI research is published in English and framed through Euro-American perspectives. Indigenous knowledge systems, local data contexts, and culturally embedded insights are often invisible to mainstream AI research. Thus, even when

infrastructure and talent exist, Latin American actors are often cast in the role of implementers, not creators, of technology.

Resistance from local elites and external actors

In the backdrop of any movement towards economic sovereignty, there will always be, at a minimum, some level of friction caused by local elites and the agents from the core who benefit from the dependency relation. This is worsened by the legal architecture that grants, as mentioned above, a transnational corporation legal power over countries of the region.[135] Other means by which this pressure can be (and has been) exerted are lobbying, boycotts, propaganda, coercion and, in extreme cases, sanctions, blockades and military actions. The region knows ample historical examples of external interventions to correct actions that went against the interests of the core, many times with the help of local elites

Recommendations

The Need for a Cooperative Effort

Right now, no Latin American country can tackle the risks of AI dependency by itself. In face of this fact countries in the region, as evidenced in Part II, to just accept dependency as an inevitable reality, with no ambitions to change it. It is rare for a nation there to consider Latin American cooperation as an option. In fact, the region's atomisation has a deep colonial root. For instance, measures enforced during the colonial period requiring goods to pass through Spanish ports first and largely prohibiting intercolonial trade. Analogously, core countries are still the main destinations for exports of each Latin American country and the origin of all Latin American chips, digital infrastructure, and AI models. The economic trade structure is designed to prevent interregional exchange, as regional cooperation would jeopardise the power derived from the dependency relation that can only be sustained with a fragmented periphery. A clear illustration of this is the USA's efforts to make trade agreements with individual countries, rather than MERCOSUR, a common market that includes many South

American countries.[136] Such enforced fragmentation cannot be accepted anymore.

Naturally, regional trade leads the peripheral nations to less dependence on the core. However, just focusing on trade risks recreates dependency dynamics regionally, due to the high disparity in each country's capacity.[137] The solution to this would be a deeper cooperative framework with organisms in charge of moderating exchange to avoid such a scenario, and thus, turning the region into a unit. The challenges described above make regional integration the only viable path towards AI sovereignty.

Joint Public Infrastructure Investment

Addressing the lack of financial capital needed for the development of a regional AI industry would require overcoming Latin America's deeply entrenched economic paradigm by preventing capital flight and unequal trade relations. A start for such corrective measures could be based on leveraging the region's key position in the electronics industry, given its mineral reserves. By investing across the entire value chain—from raw material extraction to processing and manufacturing—Latin American countries can not only retain greater economic value domestically but also significantly reduce the costs associated with developing advanced technologies. This approach mitigates reliance on expensive imports from dominant monopolies like the one held by Nvidia, with the abusive premiums charged for their components. To achieve such an ambitious goal, a joint effort aimed at pooling regional capital, expertise, and resources is vital.

To surmount the individual lack of enough computing resources to train and run AI models, resources could be pooled across the region. Then cloud and AI services could be offered in the form of a public computing utility, at has already been proposed for decades.[138] Recently, there has been serious work along these lines. The Development Bank of Latin America and the Caribbean (CAF) has already proposed creating a web of HPCs for the development of Latin American AI.[139] The organisation also has the long-term goal of promoting the growth of the

region's overall computing capacity. Although the roadmap has not been published yet, the CAF demonstrated the feasibility and profitability of building AI-capable HPCs in the region, even in the most conservative scenario.[140]

There is also ample space for improvements that can be carried out in the short term. Firstly, a strategy to reduce dependency that has been widely proposed is to diversify the import origin, prioritising other countries from the region or the world periphery whenever possible. [141] Although chips may have to be bought from American companies, many of the electronic components needed to develop digital infrastructure can be imported from countries in the global south. Secondly, to address privacy, security and cybersecurity issues, private involvement should be heavily regulated and avoided with an urgency correlated to the importance of the exposed data. All governments' data should be migrated to local cloud facilities, preferably domestically owned, as already done in some Latin American countries.

Academic Collaboration

There is a growing concern over the colonial nature of periphery knowledge production in academia.[142] If Latin America is to aspire to design and produce its technology, it must address the deep global disparities present in academia, which leads, for example, local AI experts to migrate to the core. In the last eight years, every Latin American country has lost more experts than what they have been able to attract.[143] A path to tackle this issue lies in exploiting the synergies of regional academic collaboration, which has also been proposed as a solution to brain drain.[144] This cross-pollination sparks creativity, leads to interdisciplinary breakthroughs, and accelerates the pace of innovation.[145] Moreover, intraregional academic exchange programs also foster the creation of a deeper Latin American identity, addressing prejudices and nationalistic tendencies. Consequently, investing in regional academic cooperation should be viewed not merely as an educational or economic strategy but as a foundational step towards building a self-sufficient, innovative, and unified Latin American technological identity.

Regional AI legal framework

The lack of a comprehensive digital legal framework has been targeted as the root of many privacy issues, as Big Tech exploits these legal blanks present in the periphery, creating a big datafree-for-all.[146] To avoid AI services becoming a new avenue for digital colonialism, a regional legal framework should prioritise both transparency and privacy protection. The GDPR in Europe is an example of a step in the right direction, but peripheral countries may be less willing to take such measures individually, due to fears of capital flight to other countries. A joint effort is thus required for such initiatives, with added benefits such as standardising regulations, which simplifies expansions of AI initiatives to the whole continent.

As many Trade agreements and BITs with countries and MNCs of the core should be terminated as soon as possible. Regional cooperation can again facilitate this process. Firstly, collective bargaining will balance power asymmetries to negotiate better exit terms for these treaties. Secondly, during the extended period stipulated in sunset clauses, regional agreements can promote mediation and conciliation instead of adversarial arbitration, offering more balanced, less costly, and less confrontational means of resolving disputes.[147] Thirdly, regional integration initiatives can choose to exclude or strictly limit investor-state dispute settlement (ISDS) mechanisms, as seen in the Regional Comprehensive Economic Partnership (RCEP) in Oceania, which omitted ISDS entirely.[148]

Joint Fiscal Policy for Big Tech

In a similar fashion, creating a fiscal policy that ensures proper tax collection from foreign tech corporations should be a regional effort. Low bargaining power has left many Latin American countries competing among each other for Big Tech contracts. This race to the bottom pressures nations to lower taxes and ease regulations, preventing them from collecting sufficient fiscal revenue and protecting, for instance, their citizens' privacy. It has also been shown that an effective fiscal policy is necessary to pursue technological sovereignty, as it facilitates the creation of the necessary internal economic conditions for local initiatives to develop.[149]

Furthermore, integration is necessary to control the persistent outflow of fiscal revenue through tax evasion, which has reached almost 7% of the region's GDP.[150] As an ECLAC report also concludes, regional cooperation is the only way to fight this evasion.[151] This can be, for example, by establishing a unified digital services tax, harmonising minimum corporate tax rates across Latin American jurisdictions, implementing region-wide anti-avoidance regulations, and collectively negotiating with Big Tech corporations. Such an approach would enhance the region's fiscal capacity, enabling the strategic investment needed for robust, sovereign AI infrastructures and innovation ecosystems.

Conclusion

Artificial intelligence is proving to be an unprecedented revolution set to alter and then mediate the power relations between the core and the periphery. Latin America risks the co-optation of this transformation, which could both help lift the region out of its economic subjugation,[152] or further deepen the core's grip on the region. The potential benefits of the AI revolution should not be equated with Big Tech and its insertion into the periphery's economy, military and society. The current efforts to introduce AI into the region, as shown in National AI policies and private initiatives, show that this the path that is being chosen, as the principles behind sovereignty are not prioritised with sufficient urgency or are even discarded through developmentalist rhetoric. While Latin America's moves towards even deeper dependency, the region's governments and the media are celebrating it as progress, whilst ignoring or not sufficiently addressing the enormous risks associated with such a mode of exchange with the core. Still, some initiatives show an alternative, sovereign path for Latin American AI. But even the most promising initiatives are under threat of being swallowed by corporate giants if not aided by the region's governments.

If Latin America is to stop its artificial economic suppression from being catalysed by the fourth industrial revolution, it must do so collaboratively. Fragmented efforts have already proven insufficient given regional challenges. Lack of capital,

legal architecture, expertise, and resistance from benefiting elites and core countries make a joint effort necessary. Such a collaboration would have to aim to advance joint infrastructure efforts, academic collaboration, and standardisation of an AI legal and fiscal framework. An integration effort based on these objectives would give the region a united voice and its only chance to finally bring an end to Latin American subjugation.

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