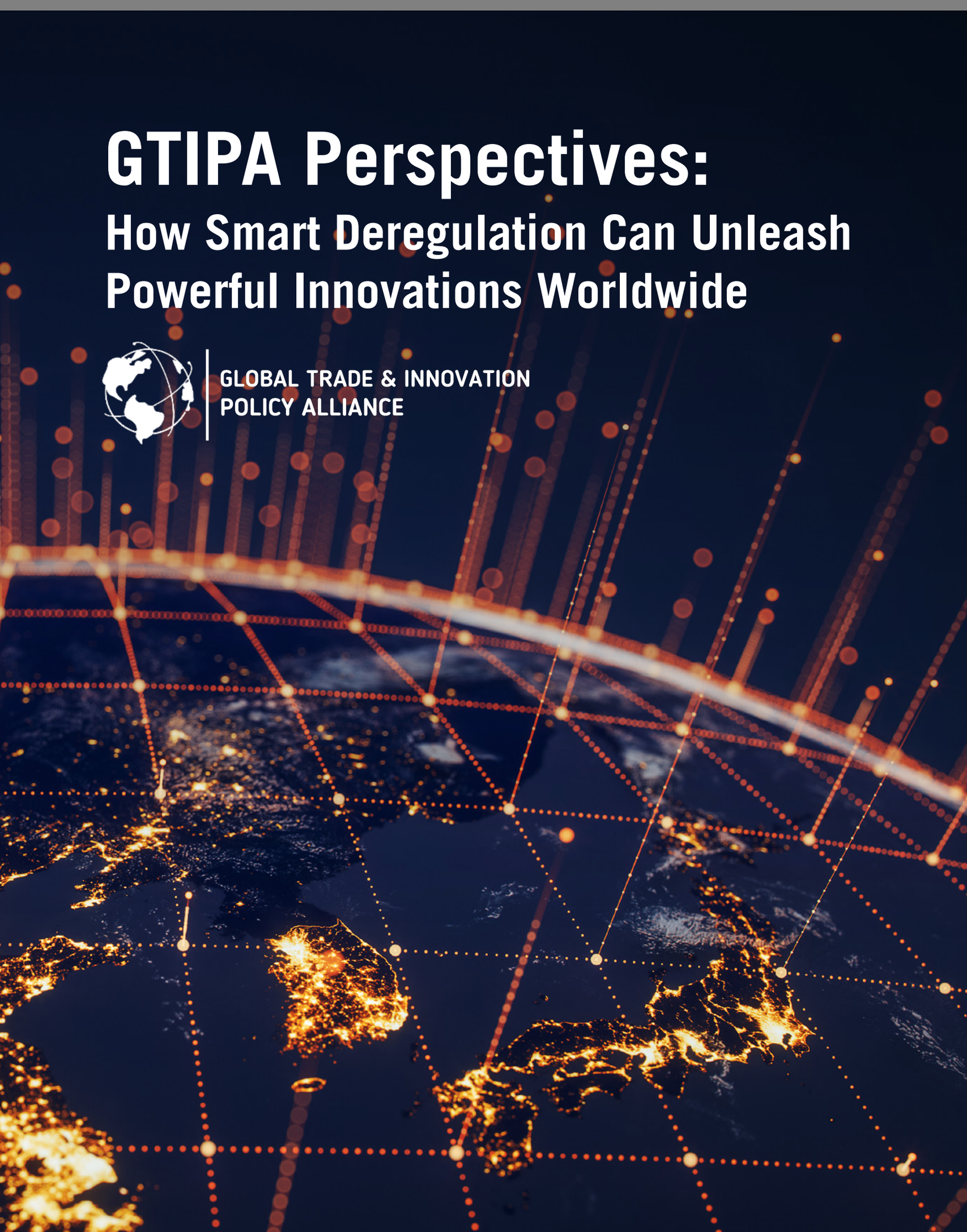
GTIPA Perspectives:

How Smart Deregulation Can Unleash Powerful Innovations Worldwide

GLOBAL TRADE & INNOVATION
POLICY ALLIANCE

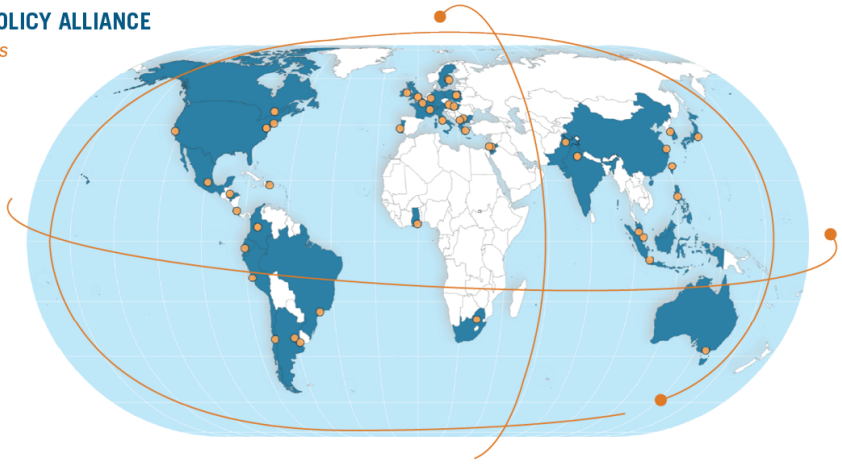


ABOUT THE GLOBAL TRADE AND INNOVATION POLICY ALLIANCE

The Global Trade and Innovation Policy Alliance (GTIPA) constitutes a global network of independent think tanks that are ardent supporters of greater global trade liberalization and integration, deplore trade-distorting "innovation mercantilist" practices, yet believe that governments can and should play important and proactive roles in spurring greater innovation and productivity in their enterprises and economies. Member organizations advocate and adhere to research and policy consistent with a core Statement of Shared Principles. The Alliance represents a network of like-minded think tanks who have opportunities to collaborate on events, research, and reports while enjoying a platform that highlights and cross-pollinates member organizations' work on trade, globalization, and innovation policy. Think tanks interested in joining the Alliance should contact Stephen Ezell, Vice President, Global Innovation Policy at the Information Technology and Innovation Foundation (ITIF), at sezell@itif.org.

THE GLOBAL TRADE AND INNOVATION POLICY ALLIANCE

Like-Minded Think Tanks on Six Continents



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INTRODUCTION

The Global Trade and Innovation Policy Alliance (GTIPA) represents a global network of over 50 independent, like-minded think tanks from over 40 economies across the world who believe that trade, globalization, and innovation—conducted on private enterprise-led, market-based, rules-governed terms—can maximize welfare for the world's citizens. The Alliance exists to collectively amplify members' voices and enhance their impact on trade, globalization, and innovation policy issues while introducing new scholarship into the world on these subjects. Among their shared principles, GTIPA members are committed to approaching globalization and trade through an innovation-based perspective. This perspective recognizes the immense potential of innovation in improving existing processes, products, services, and business models, and its role in expanding economies and promoting sustainable development.

This report highlights the mounting economic costs of burdensome regulations that exact far more costs than benefits on societies—and which in many countries have led to unchecked regulatory accumulation—and the adverse impact on innovation, productivity, and long-term growth they cause. Across advanced and developing economies alike, layers of outdated, duplicative, and often conflicting regulations have accumulated over decades, with little systematic reevaluation. This regulatory burden is particularly harmful to startups and small firms, which face disproportionate compliance costs and reduced flexibility. Evidence shows that excessive regulation slows investment, distorts the Schumpeterian process of creative destruction, and incentivizes informality, especially in emerging markets where a significant portion of the labor force operates outside the formal economy. According to the International Monetary Fund (IMF), in sectors such as textiles and construction informality can exceed over 60 percent of the world's adult labor force, stunting sustainable growth. Meanwhile, studies find that streamlining regulation, particularly by liberalizing market entry, can unlock substantial economic gains. For instance, moving from median- to least-regulated among Organization for Economic Cooperation and Development (OECD) countries could boost employment growth by 1 percent annually. As such, effective reform efforts must go beyond rule-counting and focus instead on reducing compliance costs, fostering innovation, and ensuring that regulation supports rather than stifles dynamic economic activity.

When it comes to regulation—just as for innovation—the choice isn't between all government or no government, it's about what's the optimal level of government engagement in fostering sensible regulations that effectively enable innovation.

To be sure, effective regulations are critically important to the success of countries' advanced technology industries. For instance, if countries wish to lead in biopharmaceutical innovation, governments need to implement effective drug regulatory agencies to ensure that the drugs industry develops are indeed safe and efficacious. A good example of regulatory innovation comes from the United States. In the mid-1980s, it took on average three years for the U.S. Food and Drug Administration (FDA) to complete drug evaluations. In 1992, the United States introduced the Prescription Drug User Fee Act (PDUFA), which permitted the FDA to collect user fees from industry, helping ensure the agency could be adequately staffed with high-quality personnel and appropriate workflow and project-management frameworks to support making accurate and timely determinations regarding the safety and efficacy of new human drug applications for approval.[1]

Today, the FDA makes drug safety and efficacy determinations in about 10 months, with no decrease in the accuracy of those determinations. Similarly, if countries want to manufacture innovative commercial airplanes or autonomous vehicles, regulatory systems need to validate the safety of these systems, while eschewing overly burdensome regulations. When it comes to regulation—just as for innovation—the choice isn't between all government or no government, it's about what's the optimal level of government engagement in fostering sensible regulations that effectively enable innovation.

This volume compiles vignettes from thirteen countries: Argentina, Australia, Bangladesh, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Ecuador, Germany, India, Indonesia, Italy, Korea, Pakistan, Philippines, Poland, and the United States.

The Challenge of Regulatory Accumulation

A common pattern across countries has been the accumulation of regulatory layers over the past several decades, often without consistent reevaluation. In the United States, the U.S. Code of Federal Regulations alone exceeds 170,000 pages. This regulatory buildup often results in conflicting rules, reduced business agility, and increased compliance costs, especially for startups and small businesses. Most significantly, excessive regulation suppresses innovation and slows productivity and gross domestic product (GDP) growth across sectors.

Regulatory agencies frequently lack the institutional mechanisms or political will to systematically review existing rules to determine which are outdated, duplicative, or counterproductive. As a result, the system tends to be reactive rather than adaptive.

Another significant challenge to deregulation has been the accumulation of privileges and benefits these regulations have created over time. As laws and rules are promulgated, they often confer advantages, whether intentionally or not, on specific interest groups. These may include favorable tax treatments, trade protections, government subsidies, monopolistic or oligopolistic positions, elevated wages in protected sectors, or enhanced political influence. Once granted, these benefits become entrenched. Both private actors and segments of the public which benefit from the status quo are likely to resist any reform that threatens their position. This creates a powerful constituency for regulatory inertia. Attempts to roll back regulations are often framed as attacks on jobs, national interests, or fairness, even if the regulations in question distort markets, reduce efficiency, or limit innovation. As a result, deregulation becomes not just a technical task, but a deeply political one, entangled in negotiations over power, privilege, and distribution.

The Economic Costs of Regulatory Accumulation

Empirical evidence underscores the economic costs of overregulation. Several studies show that regulatory barriers, particularly barriers to market entry, are negatively associated with investment levels. Regulatory reforms that liberalize entry, on the other hand, are strongly correlated with increased investment and productivity.

Anti-competitive product market regulations significantly reduce employment across OECD countries.[2] Additional research reveals that such regulations hinder multifactor productivity growth, while others identified a positive relationship of having a stronger protection of intellectual property rights, as they tend to be associated with higher research and development (R&D) intensity.[3]

Research by the National Bureau of Economic Research (NBER) has found that in industries undergoing substantial regulatory reforms, deregulation led to long-term increases in investment. Notably, the most impactful aspect of reform was the liberalization of market entry, while industry-level privatization had relatively limited effects. The marginal benefits of deregulation were greatest when reforms were more comprehensive, and the initial level of regulation was high.[4]

Macroeconomic models further suggest that sequencing reforms, starting with product market deregulation, can reduce opposition to labor market reforms by first diminishing the rents available in union-firm bargaining processes. However, such sequencing may be difficult in consensus-driven political systems where veto players limit reform momentum.[5]

Regulation, Informality, and Distorted Growth

The World Bank has identified two main channels through which regulation can harm economic growth. First, regulation distorts the Schumpeterian process of creative destruction, limiting firm dynamics and innovation. Second, excessive regulation incentivizes firms to operate informally to avoid compliance costs.[6]

Several studies show that regulatory barriers, particularly barriers to market entry, are negatively associated with investment levels.

In many countries, especially in developing economies, firms respond to burdensome regulations by moving into the informal sector. In Argentina, for example, 42 percent of the workforce operates informally, with some sectors, like textiles and construction, seeing informality rates in excess of 70 percent.[7] These firms often stay suboptimally small, use informal supply chains, and divert resources to avoid detection or bribe officials. This results in slower, less sustainable economic growth.

Quantifying the Gains From Deregulation

A broad body of research quantifies the economic benefits of reducing regulatory burdens. The IMF estimates that a country moving from the median to the least-regulated decile among OECD nations could gain roughly 1 percent in annual employment growth.

Cumulative U.S. regulations between 1980 and 2012 reduced GDP growth by about one percentage point annually, mainly by distorting and discouraging business investment.[8] Other studies suggest that a 10-percentage-point increase in regulatory burden reduces per capita income growth by 0.5 percentage points annually.[9]

Historical examples support these findings. Deregulation of the United Kingdom's transport and communications sectors in the 1980s increased investment by roughly 3 percentage points. In the United States, the Office of Management and Budget (OMB) estimated that final rules issued in 2016 imposed between $74 billion and $110 billion in annual costs (in 2014 dollars)—and that fewer than 0.5 percent of those rules met the threshold for detailed economic evaluation.[10]

The regulatory review process itself is often constrained by cost. For example, OMB only evaluates rules expected to cost over $100 million annually, and even then, only if the issuing agency has already conducted an analysis.

Federal regulatory agencies frequently propose rules without adequately considering their effects on innovation. This oversight stems from two persistent challenges: the political focus on short-term outcomes and a reluctance to challenge entrenched incumbents. ITIF's Stephen Ezell and Robert Atkinson have suggested addressing this gap by establishing an Office of Innovation Review (OIR) within OMB. The OIR would serve as a dedicated advocate for innovation within the regulatory process. Its mandate would include evaluating whether agencies are promoting innovation or unnecessarily hindering it and recommending alternative regulatory approaches that better support technological progress.[11]

Cumulative U.S. regulations between 1980 and 2012 reduced GDP growth by about one percentage point annually, mainly by distorting and discouraging business investment.

Efforts to control new regulation, such as the United Kingdom's "one-in, one-out" policy, have yielded mixed results. A Centre for Policy Studies assessment found that by 2012, up to 50 percent of new regulations fell outside the policy's scope. The United Kingdom's National Audit Office estimates that while $1.1 billion in costs were eliminated since 2015, $10.4 billion in new compliance costs were imposed on businesses outside the scope of the policy.[12]

Ultimately, what matters is not the number of regulations, but their net economic cost and their impact on innovation. Effective deregulation focuses on reducing compliance costs and encouraging innovation, not just eliminating rules.

COUNTRY CASE STUDIES

Despite considerable variation in political context and policy instruments, the country case studies compiled in this report reveal several common themes in the design and implementation of deregulation approaches. These shared patterns underscore the global relevance of regulatory streamlining as a tool to spur innovation, increase competition, and unlock productivity growth. This volume highlights the innovation-inducing impacts of sensible deregulation across multiple sectors of nations' economies from telecommunications to finance, energy, transportation, agriculture, and other professional sectors.

Agriculture

Several of the case studies highlighted how deregulation is empowering innovations in agriculture.

- Both Australia and India have reformed drone regulations to facilitate their use of smart agriculture (i.e., precision farming) applications. Australia also streamlined procedures for approvals for Internet of Things devices in remote areas (e.g., soil moisture sensors, livestock trackers).
- To advance its food security agenda, Indonesia deregulated fertilizer subsidies and created an electronic registration system for them, streamlining the submission process and reducing regulatory bottlenecks.
- In 2025, Pakistan's Prime Minister explicitly called for a "comprehensive regulatory framework to support innovation and transparency" in agriculture and introduced numerous reforms thereof.

Energy

Effective and well-functioning energy markets are indispensable for accelerating innovation and expanding economic opportunity. Clean energy technologies—from advanced batteries and hydrogen systems to carbon capture and next-generation nuclear—stand to capture significant shares of rapidly growing global markets, generating jobs and strengthening industrial competitiveness in the process. At the same time, oil and gas will remain integral to the global energy mix for decades, making it critical that markets incentivize the responsible and efficient use of these resources. In energy markets, deregulation often pursues dual goals of competitiveness and sustainability.

Examples:

- Argentina liberalized its oil and gas sector while promoting renewables.
- Australia and Brazil leveraged deregulation to attract private investment into renewables, particularly in mining-intensive regions where hybrid energy systems reduce diesel dependency.
- Bulgaria completed a wholesale shift to market-based electricity pricing, integrated into the European Union (EU) energy grid.
- Poland introduced market-based electricity pricing and supported the development of renewable energy auctions to attract private capital, while also investing in energy storage and smart grid technologies to modernize its power infrastructure.
- In the United States, energy deregulation varies by state but often focuses on increasing competition in generation and retail electricity markets, reducing consumer costs, and enabling innovation through demand-side management and integration of distributed energy resources.

Finance

Financial innovations, enabled by advances in digital technologies and modernized regulatory approaches, can expand financial inclusion, enhance productivity in the financial sector, and boost economic growth. Flexible and adaptive regulation is critical to unlocking these benefits, allowing new services such as mobile payments, peer-to-peer lending, and blockchain applications to reach more consumers and businesses. By reducing outdated regulatory barriers and fostering a more innovation-friendly environment, policymakers can help ensure that capital flows more efficiently, underserved communities gain access to financial tools, and the financial system becomes more competitive and dynamic, ultimately driving broader economic prosperity.

Examples:

- Argentina's and Brazil's fintech sector flourished thanks to light-touch regulation and interoperability. These countries also have a higher adoption rate for blockchain technology.
- Australia implemented a Consumer Data Rights framework and regulatory sandboxes to foster open banking and reduce barriers to entry.

- Bangladesh achieved rapid financial inclusion by authorizing telecom-linked mobile banking services such as bKash. These reforms helped broaden access to credit, especially in underserved rural areas.

Telecommunications and Digital Infrastructure

Expanding and modernizing telecommunications and digital infrastructure is essential for driving sustained economic growth, strengthening competitiveness, and ensuring that everyone can participate fully in the global digital economy. Putting digital at the center of infrastructure strategy creates jobs in the near term while delivering superior long-term benefits compared to traditional investments, boosting national security, enhancing resilience in the face of disasters, and reducing environmental impacts through smarter, more-efficient systems. High-capacity broadband networks, upgraded communications systems, and intelligent infrastructure form the backbone of innovation across sectors, enabling advanced manufacturing, telehealth, e-commerce, and digital government services.

Examples:

- In Argentina and Brazil, the dismantling of state monopolies in telecoms catalyzed major expansions in service quality and access.
- Bangladesh saw a parallel surge in mobile connectivity and e-commerce following market opening.
- Colombia has introduced landmark reforms implementing a regulatory framework for open finance, becoming one of the first countries in Latin America to do so.
- Germany promoted online pharmacy competition by removing restrictions on mail-order medicine sales.
- Italy focused on procedural simplifications to accelerate broadband deployment.
- Pakistan's reforms enabled rapid growth in mobile and broadband penetration through spectrum liberalization, competition-friendly licensing, and infrastructure-sharing policies.
- In August 2025, the Philippines enacted the *Open Access in Data Transmission* law, reducing barriers to entry and expansion in Internet service provision, helping to open the Philippines market, boost competition, lower network rollout costs, and improve digital service quality.

The entry of new operators and increased investment in mobile broadband helped expand access across urban and rural areas alike, positioning the telecom sector as a key enabler of digital inclusion and economic modernization.

Transportation

Technological and market innovation in transportation often falters under the weight of outdated regulatory frameworks designed to shield incumbents from competition. Excessive or misaligned regulation can stifle productivity-enhancing change by focusing on preserving the status quo rather than achieving broader societal outcomes such as safety, efficiency, and consumer welfare.

To unlock these benefits, policymakers should pursue targeted, intelligent regulatory reforms that maintain public safety while reducing uncertainty. In sectors such as railroads, trucking, and

commercial drones, regulators are grappling with rapid advances in automation that could deliver significant safety and efficiency gains for society.

Examples:

- Argentina liberalized its aviation sector, allowing low-cost carriers to enter, expanding connectivity, and reducing fares.
- Germany's opening of long-distance bus and freight markets led to rapid efficiency gains.
- In Korea, the ride-hailing service Tada became a prominent mobility innovation case, showcasing how regulatory sandboxes enabled new business models while also revealing the pushback from entrenched taxi industry interests that ultimately led to tighter restrictions.

Both the German and Argentinean cases exhibit a similar pattern: elevated prices were imposed as a means of protecting a specific industry, rail transport in the case of Germany and bus transport in the case of Argentina. The deregulation policies shared a core objective: removing anti-competitive barriers to entry that had protected incumbents and constrained consumer choice.

Business Environment and Administrative Simplification

Several countries deployed deregulation as a means to improve the overall business environment. ITIF's "Innovation Success Triangle" envisions economic vitality as depending on the interplay of three core pillars: supportive business, regulatory, and innovation/tech policy environments.[13] A business climate that fosters high-quality management, widespread adoption of information technologies, and access to capital; a regulatory, trade, and tax framework that ensures open markets, transparent rules, and effective intellectual property protections; and an innovation/tech policy ecosystem that invests in R&D, nurtures talent through STEM education and high-skill immigration, and catalyzes collaboration between industry, academia, and government.

The following are some of the case studies with a particular focus on reducing bureaucratic friction and enabling entrepreneurship.

Examples:

- In Chile, the "Your Business in a Day" program streamlined company registration by digitizing and consolidating multiple procedures, cutting the average time to start a business from nearly a month to under a week. This reform significantly increased formal firm creation, especially among micro and small enterprises.
- Costa Rica has introduced the concept of the "Revolutionary Sandbox"—an alternative to the traditional regulatory sandbox—that empowers innovative Costa Rican companies developing business model that comply with four key objectives: 1) a world class product or service; 2) a disruptive innovation; 3) scalable; and 4) the solution will be offered in the global market.
- Ecuador has recognized that data localization policies create barriers to service innovation, especially in the fintech sectors, and has taken steps to repeal these policies.

- India recently introduced significant regulatory reforms that unlocked private-sector innovation in the country's space and drone sectors.
- In Italy, a series of "Simplification Decrees" reduced red tape for permits and infrastructure projects, introduced digital-by-default authorization systems, and established a fast-track regime for strategic investments for fixed and mobile networks. These measures enhanced legal certainty and reduced compliance burdens, attracting greater levels of private capital.
- Pakistan also undertook initiatives to improve its business climate by digitizing registration services, streamlining tax procedures, and liberalizing investment rules in key sectors. These reforms contributed to its advancement in global ease-of-doing-business rankings.
- In Poland, pro-business regulatory reforms included initiatives to enable legally valid electronic services of documents for administrative and judicial procedures.

Collectively, these examples illustrate how deregulation—when oriented toward operational efficiency and legal clarity—can lower barriers to entry, promote formalization, and foster a more dynamic private sector. Moreover, these case studies illustrate that while reform strategies must be tailored to national contexts, their underlying logic—reducing compliance costs, enhancing market contestability, and accelerating innovation—is widely shared. The diverse successes documented in this volume affirm that well-designed deregulation, grounded in transparency and competitive neutrality, remains a powerful lever for inclusive economic growth.

ARGENTINA

Fundación Internacional Bases & We Are Innovation, By Horacio Arana & Federico N. Fernández

Argentina under Javier Milei has embraced sweeping deregulation policies rooted in free-market principles. These reforms are dismantling bureaucratic obstacles across the economy to foster innovation and growth. Considering three key examples—real estate, digital connectivity, and energy—one can see how these changes are already creating immediate impacts while setting the stage for potential long-term transformation. At their core, these policies aim to energize private investment, boost market competition, and accelerate technological progress, opening new doors for both businesses and individuals throughout the country.

Rent Decontrol and Housing Market Expansion

Before Javier Milei's reforms, Argentina's rent control laws significantly restricted landlords' ability to freely decide rental prices, which paradoxically led to a decrease in the availability of rental properties and an increase in prices. The repeal of these rent control regulations by Milei's government removed these barriers, resulting in a notable shift in the housing market. Within months of deregulation, Buenos Aires experienced a substantial 195 percent increase in available rental properties, alongside adjusting rent prices to reflect market demand.

This deregulation has benefited younger renters who previously faced difficulties finding affordable housing due to price caps that discouraged landlords from listing their properties. Furthermore, the freer market has spurred a surge in real estate investment as developers find new opportunities. While some critics have expressed concerns that these changes have primarily benefitted landlords,

proponents emphasize the increase in affordability and housing availability, offering consumers greater flexibility and choice in their search for rental properties.

Satellite Internet Expansion for Agriculture and Industry

A significant challenge in Argentina has been the limited digital infrastructure in its vast rural areas, which has hindered the adoption of modern farming technologies and industrial efficiency. Recognizing this obstacle, Milei's administration deregulated the satellite Internet market, enabling global providers such as Starlink, Amazon's Kuiper, and OneWeb to operate with fewer government restrictions.

This policy has generated far-reaching effects on crucial industries, including agriculture, mining, fishing, and oil extraction. Enhanced connectivity allows farmers to implement precision agriculture, a technology-driven approach utilizing sensor networks, artificial intelligence (AI), and real-time data analysis to optimize crop yields and minimize waste. Similarly, mining and oil companies can use remote monitoring systems and automated machinery, leading to increased productivity and safety.

The expansion of satellite Internet also offers significant benefits for education and remote work, particularly in Argentina's underserved regions. Rural schools and businesses now have greater access to digital tools, helping to bridge the technological gap between urban and rural areas.

By removing regulatory barriers, the administration aims to position Argentina for greater global competitiveness and foster innovation across multiple sectors. It's worth noting that concerns exist regarding the precarity of infrastructure in some regions and the potential impact of weather on satellite Internet services.

Energy Sector Liberalization and Market Growth

Historically, Argentina's energy sector has been characterized by significant levels of government control, particularly concerning crude oil exports, fuel pricing, and production regulations. This intervention often deterred investment and limited the country's ability to exploit its vast natural resources fully. Milei's government has started a move to liberalize the energy market by reducing restrictions on fuel pricing and exports and proposing the privatization of YPF, the state-owned oil company.

These reforms have enhanced Argentina's attractiveness to foreign investors, sparking renewed interest in oil exploration, refining, and renewable energy projects. Deregulation also empowers local businesses to negotiate competitive fuel prices, potentially leading to lower consumer costs. Furthermore, Argentina's strong potential for renewable energy, particularly wind power in Patagonia and solar energy in the northwest, has gained momentum as companies face fewer restrictions in entering the clean energy market.

While some critics have expressed apprehension that privatizing YPF may lead to short-term volatility, supporters contend that a market-driven approach will promote efficiency and innovation while reducing reliance on government subsidies. Deregulation is positioning Argentina's energy sector for long-term expansion, enhancing its ability to compete in global markets. It's essential to emphasize the government's intention to dismantle protectionist measures such as the "Buy Argentina" law and streamline regulations to promote market liberalization and attract foreign investment. This includes simplifying regulations, increasing market access, and enhancing consumer choice.

Conclusion

Javier Milei's deregulatory policies are significantly transforming Argentina's economic framework, with the stated aims of driving investment, technological advancement, and market competition. By reducing state intervention, these measures seek to empower businesses and individuals, unlocking new opportunities across multiple sectors. While challenges persist, these reforms illustrate the potential of free-market policies to foster innovation and position Argentina for sustained economic growth. It is crucial to keep a balanced perspective, considering both the potential benefits and drawbacks, such as ensuring fair competition and protecting workers and consumers. The success of these policies will depend on the government's ability to create a level playing field and ensure that the benefits of deregulation reach all segments of society.

ARGENTINA

The Information Technology and Innovation Foundation (ITIF), By Mario Ottero Cricco

From Monopolies to Market Freedom, Argentina's Aviation Reform

Argentina has embarked upon a bold new chapter of aviation deregulation under the leadership of President Javier Milei, aiming to foster greater competition and efficiency. For years, Aerolíneas Argentinas held a dominant, near-monopolistic position in the market, shielded by state-imposed regulations that restricted competition. The airline was privatized in the 1990s, then re-

nationalized in 2008, and has since operated at a consistent deficit, imposing a heavy financial burden on taxpayers.

Between 1990 and 2016, Argentina's airline passenger growth averaged about 4 percent per year, significantly trailing behind regional counterparts such as Chile (10 percent) and Brazil (7 percent). Additionally, data from the Aviation Price Index (2016) revealed that Argentinians were paying three times more per 100 kilometer (km) of air travel than Brazilians. In terms of pricing competitiveness, Argentina ranked 50th out of 75 global aviation markets, highlighting the inefficiencies in its regulatory framework.[14]

Recognizing the need for reform, former President Mauricio Macri introduced a policy initiative in 2016 known as *La Revolución de los Aviones* (The Airplane Revolution). The objective was to open the aviation market to competition by encouraging the entry of low-cost carriers (LCCs) and ultra-low-cost carriers (ULCCs). The policy sought to lower airfare prices, improve domestic and international connectivity, and shift travel habits away from long-distance buses and car travel to air transport.

Historically, long-distance bus travel was the norm in Argentina, due in large part to high airline ticket prices. A striking example is the 13-hour journey between Mendoza and Buenos Aires, where bus companies enjoyed regulatory protections that prevented airlines from offering competitive fares. By removing such restrictions, the government paved the way for the introduction of new LCCs, including Flybondi (named after the colloquial term *bondi* for bus), JetSmart, and Norwegian Airlines.

The impact of these changes was immediate and significant. Domestic airline traffic surged, with over 14 million passengers flying in 2018, a 40 percent increase from 2015. The policy also contributed to a 44 percent increase in air routes that bypassed Buenos Aires, while international routes expanded by 71 percent. Additionally, the total fleet of aircraft in the country grew by 26 percent between 2015 and 2018.[15]

However, when the Peronist government returned to power, it reversed many of these reforms, reinstating protections for Aerolíneas Argentinas and introducing new market restrictions. One of the most damaging moves was the closure of El Palomar, an alternative airport in Buenos Aires that had been a hub for low-cost carriers. As a result, Norwegian Airlines exited the market, followed by LATAM, one of the region's largest players.

Now, under President Milei, Argentina is undergoing an even more ambitious phase of deregulation. Many outdated laws are being repealed, including Law 19,030 from 1971, which heavily regulated air transport. That law had mandated that Aerolíneas Argentinas receive a minimum share of market operations, that the state determine on which routes airlines could operate, and that fares fall within a state-controlled band.

The new regulatory framework embraces an Open Skies policy, allowing airlines to determine the number of flights based on market demand. Airlines will also have the flexibility to select their destinations and layovers without restrictions. Additionally, limits on destination points have been lifted, enabling airlines to expand their reach and improve cargo transportation.[16]

Within just a year of President Milei taking office, two new airlines entered the market, ten new international routes and two domestic routes were established, and nine memorandums of

understanding were signed. The Argentine Aeronautical Code, along with various regulations and systems, has also undergone restructuring. According to Secretary of Transportation Franco Mogetta, December 2024 marked a historic milestone in Argentine aviation, with Aeropuertos Argentina recording nearly 4 million passengers, making it the highest passenger traffic month in history—a 20 percent increase compared to the level in December 2023.[17]

Looking ahead to 2025, new routes and airlines are expected to further improve connectivity and affordability in Argentina. The increased competition will compel Aerolíneas Argentinas to operate more efficiently, enhancing services while reducing costs and deficits.

However, caution is warranted. Argentina can also learn from past privatization efforts in Latin America during the 1990s, where poorly managed transitions led to the replacement of state-protected monopolies with private ones, rather than fostering true competition. Additionally, labor regulations and discriminatory taxation remained unaddressed in many cases, hindering the potential benefits of privatization.[18]

Another challenge Argentina may face is airport congestion. As air travel demand grows, primary airports such as Aeroparque may struggle to accommodate increased traffic, necessitating investments in alternative exit points and new airport developments. Improving regional connectivity will also be crucial to ensuring that economic benefits extend beyond Buenos Aires, boosting tourism and local economies.

To ensure a successful transition, Argentina must continue to foster an environment that encourages competition, investment, and innovation. By committing to long-term market openness and regulatory flexibility, the country can develop a dynamic aviation industry that benefits consumers and stimulates economic growth. With the right policies in place, deregulation can create a more competitive, efficient, and affordable aviation market, ultimately improving service quality and expanding opportunities for travelers and businesses alike.

Privatization of the Argentine Telephone Service (1990–2000)

In the 1990s, Argentina undertook a significant transformation in its telecommunications sector by privatizing and deregulating its state-owned telephone services. This decision was part of a broader strategy to liberalize the economy, attract foreign investment, and improve efficiency. While the reforms did lead to advancements in infrastructure and service quality, the process also revealed challenges, particularly in equity and social impacts.

The State of Argentina's Telecommunications Before 1990

Before the 1990s, Argentina's telecommunications sector was under the control of the state-owned Empresa Nacional de Telecomunicaciones (ENTEL). During this period, the sector struggled with inefficiencies, outdated infrastructure, and limited access, especially in rural areas. The state monopoly resulted in sluggish growth and insufficient investment in new technology. To imagine how inefficient it was during the 1980s, a potential consumer could wait between five to ten years before getting access to a telephone and installation costs averaged $1,500.

The government, led by President Carlos Menem, turned to privatization and deregulation as solutions to modernize the economy and attract foreign investment. Menem decided to divide the telecommunications industry for basic services into two sections, separating the market between

the northern and southern part of the country, with each company having access to half of the Buenos Aires market. Instead of maintaining a state national monopoly, the strategy gave private companies a regional monopoly, Telefonica in the South and Telecom in the North. Motives behind this included comparing relative performance and providing incentives for the companies to make required investments.

Privatization: A Move Toward Market Efficiency

The development of the telecommunications infrastructure greatly expanded, considering that Argentina's capital investments for basic telephone services increased from $371 million in 1992 to $2,445 million in 1995. From 1983 to 1998, the telecommunications market for new products and services multiplied seven times, and the average number of days to fix a telephone line improved significantly. A telephone user of Telecom had to wait an average of 30 days in 1990, compared to three days in 1996. Subscription penetration increased rapidly: according to the World Bank, in 1990, Argentina's fixed-line telephone penetration counted around 3 million subscriptions by 1998 there were over 7 million

However, privatization also had its downsides. While competition was introduced in some areas, the industry remained dominated by a few large players, leading to concerns about monopolistic practices.

Looking Forward

By the end of the 1990s, Argentina's telecommunications sector had undergone a dramatic transformation. The country saw significant improvements in technological infrastructure, but challenges remained, particularly in terms of competition and service accessibility. The experience in the 1990s of Argentina's privatization but lack of deregulation of its telecommunications sector offers valuable lessons for the country. After that era of deregulation and privatizations the current Milei administration is introducing policies to liberalize the market again. One example is the government-issued Decree 302/2024 releasing the information and communication technology (ICT) market of price caps and controls that regulate telephone, cable television, and Internet services

While privatization can lead to efficiency gains and technological improvements, it is crucial to ensure that competition is real and that underserved regions are not left behind.

In conclusion, Argentina's experience with privatization of its telephone services between 1990 and 2000 presents a complex picture. While the reforms led to improvements in service quality and infrastructure, they also highlighted the challenges of the failure to introduce real market competition, ensuring equitable access and managing social impacts. Also, the targets that the companies needed to reach in order to maintain monopoly privileges often were relaxed by government officials. The lessons learned from this period are critical for understanding how to navigate the complexities of privatizations, as they might not create real market competition.

The Rise of Fintech and Its Impact on Financial Services

Banking services such as opening an account or applying for a loan, which were previously available only at brick-and-mortar branches, can now be accessed online through digital banks. Digital wallets have become nearly as common as cell phones, and financial transactions that once took days can now be completed instantaneously. Investing has also become simpler; users can now

earn interest just by holding funds in their wallets. For example, in 2023, the funds invested through fintech platforms grew by 183 percent in just six months.

Fintech has significantly improved financial inclusion. About three-quarters of digital bank customers were previously unbanked or underbanked individuals and small and medium enterprises (SMEs). A higher level of fintech adoption has been associated with lower levels of income inequality, as alternative finance has expanded access to capital for micro, small, and medium-sized enterprises (MSMEs) traditionally underserved by the banking system.

Argentina is one of the top-five fintech markets in the world. The country now has more than 300 fintech companies, a 333 percent increase since 2017, representing more than 10 percent of the entire Latin American market. The sector has been growing at an average annual rate of 28 percent, making it one of the most dynamic in the region. Additionally, Argentina has a higher percentage of crypto adoption compared to the rest of Latin America, as consumers seek alternatives to preserve the value of their money amid years of high inflation.

According to the IMF, three key factors have fueled the fintech boom in Latin America: Limited access to traditional banking services and insufficient competition among banks, improvements in digital infrastructure, and greater access to venture capital.

Fintech has driven competition both directly and indirectly. On the direct side, fintech companies compete with traditional financial institutions, while indirectly, they encourage incumbents to invest in new financial technologies. A notable example of this is MODO, an electronic wallet created by a consortium of banks to compete with fintech giants such as Mercado Pago. Virtual wallets have become widely adopted in Argentina, with 85 percent of users having a bank account and using digital wallets, and a significant 63 percent relying on them without a bank account, further demonstrating fintech's impact.

Regulatory Challenges and Fintech Growth in Argentina

To encourage fintech adoption during the pandemic, regulators in Argentina and other countries introduced measures to facilitate compliance with anti-money laundering (AML) and to combat the financing of terrorism (CFT) through digital tools. One key initiative was the introduction of electronic Know Your Customer (eKYC) processes, which also helped traditional banks enhance their digital services.

However, Argentina's banking sector remains heavily regulated and, early on, fintech companies benefited from lower tax burdens and exemptions from certain prudential regulations, even though some activities could be considered financial intermediation. Unlike traditional banks, fintech firms are not subject to the same requirements to guarantee free deposits and withdrawals, however they fully benefit from financial sector interoperability. As a result, most fintech companies initially focused on transactional services, particularly payment systems and liquidity management, where regulatory costs were lower.

The rapid expansion of fintech in Argentina has been driven by superior services, more user-friendly platforms, simpler access, and the ability for anyone with a cellphone to participate in the financial system. This led to explosive adoption and a dominant market position for fintech companies. A few years ago, banks and labor unions attempted to impose stricter regulations, arguing that fintech companies lacked the security of traditional banks. However, the real need is for increased

competition and flexible regulation in order to not limit innovation, as fintech has clearly improved financial services for consumers.

Lower regulatory barriers have fostered innovation and better services. Implementing regulatory sandboxes could further facilitate the testing of new financial products and services, as well as better information for customers to understand risks of alternative financial services in order to ensure continued growth and technological advancement in the fintech sector.

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AUSTRALIA

The Institute for Policy, Advocacy, and Governance (IPAG), By Syed Munir Khasru

Recent advancements in technology and sustainability have driven innovation in numerous sectors in Australia, including precision agriculture, finance, and renewable energy. These developments have been primarily facilitated by deregulation and the easing of bureaucratic constraints. Over the past decade, industry-specific reforms, shaped by international trade agreements (e.g., World Trade Organization (WTO) commitments) and domestic priorities, have targeted key sectors such as agriculture, mining, renewables, and healthcare.

Australia's commitment to achieving Net Zero by 2050 has further spurred environmental legislation, prompting the need for a balanced regulatory approach that supports both mining and renewable energy development. Concurrently, outdated regulations in agriculture and finance require modernization to support scalability and meet growing demand. Strategic regulatory frameworks are thus critical to fostering sectoral evolution without impeding progress. This can ensure that interdependent industries can adapt sustainably amid climate and economic transitions.

Strategic Drone Reforms to Enhance Agriculture

As a major agricultural producer, Australia provides food for 75 million people and exports approximately 70 percent of its produce. However, addressing climate change challenges necessitates innovation, particularly in the adoption of advanced technologies. One such innovation has been the widespread use of drones, which allows farmers to optimize fertilizer and water

application, deploy robots to mitigate labor shortages, and utilize sensors for ecosystem monitoring (Rudd & Evans, 2022).

Medium-level drone adoption in Australia has the potential to significantly boost productivity, creating 5,500 new jobs annually and contributing AU $14.5 billion ($9.14 billion) to GDP by 2040, alongside sector-wide cost savings of AU $9.3 billion ($5.86 billion) (Deloitte Access Economics, 2020). Despite these benefits, skepticism remains regarding the cost effectiveness, privacy, security, and safety of drone applications. Market and non-market implications vary across sectors, geographies, and cases of implementation. Nevertheless, technological advancements, regulatory evolution, and declining operational costs are expected to drive substantial growth in commercial drone adoption across Australia.

Key reforms by the Civil Aviation Safety Authority (CASA) have revitalized the agricultural sector, including:

- Simplified licensing for commercial drone operators (exempting sub-2 kg drones from permits).
- Authorization of beyond-visual-line-of-sight (BVLOS) operations for agricultural purposes.
- Streamlined approvals for Internet of Things (IoT) devices in remote areas (e.g., soil moisture sensors, livestock trackers).

These reforms have enabled companies such as AgriWebb to integrate drone-captured imagery and IoT-enabled ear tags into farm management software, facilitating real-time livestock tracking. The market for such technologies is projected to reach AU $1 billion ($630 million) by 2040 (Deloitte Access Economics, 2020; Goldman Sachs, 2016; Mazur et al., 2016).

The adoption of drones and IoT devices has revolutionized Australian agriculture by enabling precision farming practices. These technologies provide farmers with critical data on crop and soil conditions, facilitating informed resource management decisions.

Drones equipped with advanced mapping systems can autonomously perform tasks such as crop spraying and planting, significantly improving efficiency and addressing labor shortages.

Furthermore, the integration of AI allows farmers to create 3D farm maps, optimizing land use and reducing environmental impact. Despite the high upfront costs (e.g., AU $45,000 ($28,300) for payload-capable models), drones are projected to contribute AU $14.5 billion ($9.14 billion) to GDP by 2040 (Deloitte Access Economics, 2020).

Fintech Innovation in Consumer Data Rights and Regulatory Sandboxes

In recent years, the pace of technological change and adoption in the financial sector has accelerated significantly, particularly within fintech firms, which operate distinctly from traditional financial institutions. According to a 2025 KPMG report, H2'24 saw a notable decline from H1'24, with global investment dropping from $51.7 billion to $43.9 billion. Mergers and acquisitions (M&A) deal value fell from $28.1 billion to $21.6 billion, while venture capital (VC) investment declined from $22.5 billion to $20.9 billion. Besides growth, another important feature of fintech firms is that many of them bypass traditional intermediaries and the regulatory umbrella to deliver their services (Thakor, 2020).

Unlike the United States and Europe, where the financial sector comprises a diverse mix of players, Australia's financial domain has historically been dominated by the "Big Four" banks (CBA, NAB, ANZ, and Westpac), which control 75 percent of the mortgage and deposit markets (Čihák et al., 2012). Regulatory complexity, rigid licensing requirements, and data monopolies have stifled competition, leaving little room for fintech startups to scale. The 2018 Royal Commission into Misconduct in the Banking Sector exposed systemic failures, prompting calls for reform to enhance transparency and innovation.

Australia's fintech sector encompasses authorized deposit-taking Institution (or "ADIs" such as neobanks) and non-ADIs (e.g., Buy Now, Pay Later (BNPL), payment platforms). The COVID-19 pandemic accelerated demand for digital banking solutions, while the Consumer Data Rights (CDR) Act 2019 facilitated open banking by mandating secure data sharing via APIs (KPMG, 2020; Goldbarsht et al., 2021). Key deregulatory measures included:

- **Consumer Data Rights Act (2019):** This legislation mandated data sharing between banks and accredited fintechs, fostering open banking. By 2025, 135 fintechs are expected to hold CDR accreditation, enabling services such as real-time credit scoring. In H2'24, Australia registered $1.1 billion in investments across 43 deals. (KPMG, 2025).
- **Regulatory Sandbox Expansion (ASIC, 2021):** This initiative permits 24-month product testing without full licensing, reducing compliance costs by 40 percent. It has facilitated the scaling of firms such as Judo Bank (SME lending) and Airwallex (cross-border payments) (Kapronasia, 2020).
- **Cryptocurrency Reforms (Digital Assets Bill 2023):** This legislation clarified the tax treatment of cryptocurrencies and established licensing regimes for crypto exchanges. The number of cryptocurrency users in Australia is projected to reach 11.38 million by year end 2025, with platforms like CoinJar and Swyftx gaining significant traction.
- **BNPL Light-Touch Regulation:** Exempt from the National Consumer Credit Protection Act, BNPL providers enjoy flexible affordability checks. The BNPL payment market in Australia is expected to grow by 12.1 percent annually, reaching $14.52 billion by 2025 (Research and Markets, 2025).

Impact Of Deregulation on Renewable Energy in Mining

Australia's mining and renewable energy sectors exhibit a unique interdependence, despite inherent tensions. Mining supplies critical minerals such as neodymium and dysprosium, which are essential for renewable energy technologies.

As one of the world's largest producers of critical minerals, Australia's mining sector is also a significant energy consumer, accounting for approximately 10 percent of the country's total energy consumption. Historically reliant on fossil fuels, the sector's transition toward renewables has faced regulatory, financial, and logistical barriers. However, deregulation and policies such as the National Energy Transformation Partnership and the Technology Investment Roadmap have mitigated these challenges, accelerating the adoption of hybrid energy systems and fostering sectoral collaboration.

The demand for rare earth metals, such as neodymium and dysprosium, is projected to surge 2.1-fold globally, driven by their use in wind turbine magnets. Australia, the world's largest lithium producer, anticipated lithium export earnings to triple from AU $4.9 billion ($3.09 billion) (2021–22) to AU $16.1 billion ($10.2 billion) in 2022–23, and AU $17 billion ($10.7 billion) in 2023–24, fueled by demand for electric vehicles and energy storage (DISR, 2022). Deregulation has facilitated the deployment of hybrid renewable systems (solar, wind, and batteries) in remote mining regions, reducing diesel dependency. Renewable energy projects in mining grew by 40 percent between 2020 and 2022, deploying 1.2 gigawatts (GW) of capacity (ARENA, 2023).

Deregulation has also enabled large-scale renewable energy projects that supply power to both mining operations and the grid. The Pilbara region, known for its iron ore reserves, has become a hub for renewable energy innovation (Gilbert+Tobin, 2024). Early examples of the transition to renewable energy include:

- Sandfire's 7 megawatt (MW) solar project with a 6 MW lithium-ion battery at its DeGrussa mine. (Webb, 2016)
- The Sun Metals 116 MW solar farm in Queensland, self-financed for AU $182 million ($114.7 million).
- Rio Tinto's 12.4 MW solar farm for its Amrun bauxite operations in Queensland, expected to reduce diesel consumption by 37 percent and cut annual CO_2 emissions by 14,000 tons.

These outcomes were made possible through reduced regulatory barriers, increased funding, and fostered innovation, helping the mining industries transition to cleaner energy solutions and contributing to Australia's goal of reaching net-zero emissions by 2050.

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BANGLADESH

The Institute for Policy, Advocacy, and Governance (IPAG), By Syed Munir Khasru

In recent years, Bangladesh has emerged as one of the most dynamic economies in South Asia. A series of bold reforms in economic transformations to advance the competitive market has played a contributory role in this success. Deregulation has played a key role in achieving Bangladesh's overall economic potential. The main influence of deregulation is visible in the telecommunications sector, Mobile Financial Services (MFS), Rise of the Startup Ecosystem, e-commerce platforms, the renewable energy sector, growth of the RMG (Ready-Made Garments) industry, and so on. The benefit of deregulation in Bangladesh is described using case studies from the telecommunications, financial services, and renewable energy sectors. Deregulation has contributed to the economy becoming more vibrant and viable. The government has taken some initiatives to reduce control over businesses, permit private sector actors to participate, and advanced innovation greatly in telecommunications, financial services, and renewable energy.

Telecommunications

Bangladesh Telecom Limited (BTL) was first granted the license for cellular, paging and wireless communication operations in 1989.[19] Later, in 1997, the first private telecommunications operator, Grameenphone, launched its operation in the market.[20] These companies' market domination is still quite intense.

The telecommunications sector has seen a further boom after ensuring considerable competitive pricing and improved services by the government. The expansion of the Internet, mobile phone access, education, e-commerce, and digital banking all fueled each other to ensure a digital lifestyle as well as the economic growth of the country.

Among 190 million mobile users through 2024, there are over 127 million Internet users.[21] According to the Bangladesh Telecommunication Regulatory Commission (BTRC), as of January 2025 130.06 million people use the Internet daily in Bangladesh. Most people access the Internet through their smartphones, which is possible due to the affordability of smartphones. A report found that 119.06 million of the 132.8 million Internet users utilize their mobile devices, while 13.74 million use Internet service providers (ISPs) and PSTNs (Public Switched Telephone Networks).[22] Although Internet use is growing rapidly, Bangladeshi citizens face some challenges with getting access to 5G networks. Only 3.4 percent get 5G whereas 63 percent of citizens use smartphones as of 2025.[23]

Over the last five years, the e-commerce sector has experienced a 30-fold expansion. In the current year, analysts expect that e-commerce will produce $8.05 billion in revenue, with this expected to reach $12.25 billion by 2029, with revenue growing at a projected annual growth rate (CAGR) 11.06 percent from 2025 to 2029. Online trade and commerce has grown rapidly since 2017.[24]

With the help of deregulation in Bangladesh, financial services like bKash, Rocket, Nagad, etc. are undergoing remarkable growth. This is making citizens' lifestyle easier while upgrading overall economic growth. In rural areas, it is becoming uniquely helpful where people can pay bills, send money, and access banking services promptly from their mobile phones. Mobile financial services have contributed to financial inclusion, and with e-commerce growing, the sector is booming.

While deregulation has helped increase digital access and economic growth, challenges such as unequal Internet access remain, especially for women and low-income groups.

Key Success Factors:

- Increased competition, improving services, and pricing.
- Wide availability of affordable mobile Internet.

Challenges:

- Only a small percentage of the population has access to 5G networks.
- Unequal access to mobile and Internet services, particularly for women and low-income groups.

Recommendations:

- Improve 5G infrastructure.
- Implement policies to ensure equal access to digital services across all demographics.

Financial Services Sector

The banking system in Bangladesh has been shaped significantly with a notable rise of mobile financial services (MFS). In 2011, for the very first time, Bangladesh Bank approved telecom companies to associate with banks and to offer a mobile banking service.[25] MFS has reformed the financial transactions drastically, mostly in rural areas where the presence of traditional banks was not that common. The sector's success is reflected in the rise of bKash, founded in 2010, which

has become the leading MFS provider with nearly 300,000 agents and merchants across the country.[26]

According to Bangladesh Bank, it has 238.676 million users, including both customers and merchants as of December 2024. Among these, 88.87 million accounts are active. The total number of transactions reached a remarkable 670,050,218 in fiscal year 2024, which illustrates the outstanding implementation of MFS across Bangladesh.[27]

Bangladesh Bank took another initiative in 2023 to promote innovation by introducing guidelines for digital banking. Entrepreneurs can apply for a digital banking license online with a minimum capital requirement and application fee. The selected banks will be public limited companies restricted from offering physical branches, loans, foreign trade, and large industry services.[28]

The digital banking sector has seen enormous growth. Over 60 percent of users of smartphones for banking are active in Bangladesh.[29] Even with challenges, transactions through ATMs, POS systems, customer relationship management systems (CRMs), and e-commerce continue to rise. Analysts expect that the digital banking in Bangladesh will reach $5.71 billion by 2025 with a yearly growth rate of 7 percent through 2029.[30] With that rapid growth, the digital banking market of Bangladesh is ready to become even stronger in the upcoming years.

Key Success Factors:

- Mobile banking services are significantly enhancing financial inclusion.
- Mobile financial services have made banking accessible in remote areas.

Challenges:

- Rural access remains limited in some areas.
- Ambiguities in digital banking regulations may hinder future growth.

Recommendations:

- Increase mobile banking agents and services in underserved regions.
- Create clear and stable regulations for mobile financial services and digital banking to foster growth.

Renewable Energy Sector

In the renewable energy sector, Bangladesh has faced considerable challenges. This has been mostly due to regulatory barriers, such as higher import charges and slow administrative processes. But there are some transformations such as reduced import duties and increased incentives for private sector investment. These have made renewable energy more accessible now.

Innovations like solar systems and mini-grids have helped to reduce dependency on fossil fuels. The country is in the process of diversifying its energy mix by reducing dependency on fossil fuels. Bangladesh had a target, by 2020, to achieve 10 percent renewable energy; yet, by 2023, this was only 4 percent, with solar energy accounting for the largest share.[31] Now, 4.96 percent of total capacity is provided by renewable energy. Solar power has reached 1,256 MW, which includes 705 MW from large-scale parks. 200 MW of rooftop solar is installed amidst increasing interest in urban areas like the capital city, Dhaka. In this city, 82.8 MW is already in place.[32] Deregulation has sparked innovation, creating the pathway for further expansion.

Wind and solar energy are considered to have significant growth potential, but tax structures and regulatory barriers have delayed progress. After deregulatory measures, private sector investment has been facilitated and decentralized solar systems are gaining traction in factories and the agriculture sector.

The developing Rooppur Nuclear plant, which is Bangladesh's first nuclear power project, will also support a low-carbon future. The government's revised renewable energy policy aims to accelerate development; however, securing the necessary funding for the transition remains a significant challenge.

Key Success Factors:

- Investments in solar and mini-grid projects, reducing reliance on fossil fuels.
- Growth in solar power.

Challenges:

- High import duties and slow approval processes.
- Securing necessary funds for large-scale renewable energy projects.

Recommendations:

- Simplify the approval and permitting processes for renewable energy projects.
- Incentives to attract both public and private investment in solar and wind energy.

In several respects for economic development and innovation in Bangladesh, deregulation has played a crucial role. The financial services, telecommunications, and renewable energy sectors have all gained from deregulation which has boosted the market, created employment, and enhanced technological advancements. Although there are still barriers to overcome, sustaining this growth will require perpetual attention to deregulation, infrastructure spending, and fair access.

BRAZIL

Centro Mackenzie De Liberdade Econômica, By Vladimir Fernandes Maciel

Beginning in the 1990s, Brazil underwent a wave of deregulation reforms across key sectors such as telecommunications, civil aviation, ports, electricity, and financial services. These changes fostered more competitive environments and spurred significant innovation in both technology and business models. The resulting transformations led to infrastructure expansion, cost reductions, accelerated technology adoption, and the emergence of fintechs, digital platforms, and new market players in industries once dominated by state monopolies or oligopolies.

In addition to these sectors, deregulation in Brazilian agriculture—characterized by trade liberalization, lower input tariffs, reduced state involvement in rural credit, and relaxed domestic market controls (e.g., the end of price control policies)—created a highly competitive landscape that incentivized the adoption of advanced technologies.

Telecommunications

- **Privatization of the Telebrás System:** The privatization of the state-owned Telebrás system in 1998 introduced competition into Brazil's telecommunications sector, enabling the entry of private operators and spurring infrastructure investment (Oliveira & Bessa, 2024).
- **Expansion of Mobile and Broadband Services:** The end of the monopoly led to rapid growth in mobile phone adoption and broadband access, as shown by Campanário & Reichstul (2007). This expansion paved the way for the rollout of 4G and 5G networks and the development of local digital services such as the Internet of Things and cloud computing.

Civil Aviation

- **Domestic Market Liberalization:** Starting in the early 1990s, the deregulation of air transport in Brazil allowed new carriers—including low-cost airlines—to enter the market, increasing competition (Oliveira, Ferreira & Salgado, 2012).
- **Lower Fares and Expanded Routes:** Studies indicate that the entry of low-cost airlines reduced average ticket prices by 12.4 percent on routes without codeshare agreements. The sector also benefited from an expanded flight network and the adoption of direct-to-consumer sales models and complementary digital services.

Port Sector

- **Port Modernization Framework (Law No. 12,815/2013):** The 2013 port reform opened the sector to private investment through concessions and leasing, decentralizing management, and reducing bureaucratic hurdles (Oliveira, 2014).
- **Operational and Logistical Innovation:** Private operators introduced digital cargo tracking systems, electronic scheduling, and terminal automation technologies, significantly boosting operational efficiency and attracting investment in integrated logistics chains.

Financial Services and Fintechs

- **Open Finance:** Launched by the Central Bank in 2021, Brazil's Open Finance framework broke down data silos among financial institutions, facilitating the rise of fintechs specializing in credit scoring, financial management, and instant payments—supported by the regulatory sandbox environment (Central Bank of Brazil, 2025).
- **Impact on Credit and Product Innovation:** By 2024, Open Finance had enabled approximately $3.3 billion in new credit operations. It also helped solidify business models based on data sharing and the automation of financial services.

Agriculture

- **Context of Deregulation:** In the early 1990s, the Brazilian government sharply reduced trade barriers, including tariffs on agricultural inputs, and launched the National Privatization Program, dismantling state monopolies in the sector. Additionally, legal reforms eliminated price controls on agricultural products and restrictions on imported inputs.

With the macroeconomic stabilization brought by the Real Plan in 1994, alongside ongoing market liberalization, Brazilian producers gained access to imported machinery and technology at competitive prices—creating strong incentives for modernization. Reduced tariff protection and

currency appreciation exerted deflationary pressure on internal costs, pushing producers to seek efficiency gains through innovation (Campos & Paula, 2002).

These reforms were accompanied by innovations such as GPS-enabled mechanization, precision farming, the development of genetically modified organisms (GMOs) under the Biosafety Law, and stronger public-private partnerships in agricultural research. The result was a genuine productivity revolution, positioning Brazil as a global leader in grain yields and expanding its footprint in international markets.

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BULGARIA

ArcFund, By Atanas Nedyalkov

The complete deregulation of the electricity market for businesses in Bulgaria represents the final step in a fundamental shift from a state-controlled system to a liberalized, competitive environment. It was completed on October 1, 2020 and created a whole new world of market opportunity.

Previously, businesses operated within a regulated market where the state, through its Energy and Water Regulatory Commission (EWRC), set fixed annual electricity prices. This model offered predictability and simplicity, with companies purchasing from a designated end-supplier without a choice. In contrast, the new free-market system requires businesses to buy electricity on the Bulgarian Independent Energy Exchange (IBEX), where prices are determined by supply and demand and fluctuate hourly. This new framework obliges companies to actively choose from dozens of licensed electricity traders and negotiate contracts, introducing complexity as well as plenty of opportunity.

Integration with Neighboring Countries

One of the most significant outcomes has been Bulgaria's integration into the EU's internal energy market. This was largely achieved through the establishment and growth of the Bulgarian

Independent Energy Exchange (IBEX), which has united its operations with neighboring EU markets Greece and Romania.[33] This integration allows for more efficient cross-border trading, better utilization of power generation across the region, and enhanced energy security, creating a more liquid and dynamic wholesale market.

Take the improved energy security as a prime example. Connecting national power grids means that the system becomes more resilient and less prone to blackouts or shortages. The most important factor is the access to a larger pool of power reserves. If a major power plant in Bulgaria unexpectedly shuts down due to a technical failure, for example, the national grid can experience a sudden deficit of power. In an integrated market, the grid operator can almost instantaneously import electricity from Greece, Romania, or other connected countries that have surplus generation at that moment. The backup is no longer just what's available within Bulgaria's borders, but the entire region's available capacity.

Furthermore, the integration has resulted in the smoothing out of renewable energy fluctuations such as wind and solar. A lack of wind in eastern Bulgaria might be compensated for by strong solar generation in Greece or high wind output in Romania. By being connected, the surplus from one area can automatically fill the gap in another, making the overall power supply much more stable and reliable. In a large, interconnected market with thousands of diverse power sources (e.g., gas, nuclear, hydro, solar, wind from many countries), the failure of any single plant has a much smaller relative impact on the stability of the whole system, significantly minimizing concentration risk.

Opportunities to Buy at Lower Prices

The liberalization of the electricity market for businesses has introduced competition and choice for industrial consumers. Businesses have moved from a single, regulated tariff to an open market where they can freely choose their supplier and negotiate contracts based on market prices. This has allowed sophisticated consumers to manage their energy costs more effectively, hedge against volatility, and potentially secure better prices, thereby increasing their industrial competitiveness. The process is still overseen by the country's regulator, the Energy and Water Regulatory Commission (EWRC/KBEP).[34]

In addition, there has been market demand for innovation and for bringing in new energy sources and solutions faster online. Bulgaria has not yet developed entry regulations for some technologies, such as offshore wind, creating market bottlenecks and stifling opportunities. At the same time, the liberalized market has fueled demand for storage capacity, leading to a quick uptake in battery technologies, renewable gas tech, geo-thermal, etc.

Transparent Pricing

Government-set electricity pricing was frequently opaque and difficult to scrutinize. Prices could be influenced by political considerations or cost assumptions that were not clearly disclosed to the public. As a result, it was difficult for consumers, investors, and even producers to understand how prices were set or what they actually reflected.

Currently, electricity prices are formed through open competition on organized exchanges. Power producers submit bids to sell electricity, while buyers bid to purchase it. The market matches supply with demand, and the price at which this balance occurs becomes the publicly available

wholesale electricity price. Because this process is governed by transparent market rules and real-time system conditions, the resulting prices are published and accessible to all participants.

This shift introduces much greater transparency. Prices reflect actual market dynamics, such as fuel costs, renewable generation levels, and demand fluctuations, rather than administrative decisions. The daily prices published by IBEX serve as a crucial reference for the entire sector, which is essential for encouraging new private investment, as investors can better assess market risks and potential returns.

Strategic Alignment for Common Energy Security

The process of electricity market deregulation has been a key step for Bulgaria's integration into the EU's common energy market, which is essential for strengthening both Bulgaria's national energy security and the EU's collective resilience. By extension this also strengthens NATO's collective energy resilience.

When energy markets remain fragmented and each country acts in isolation, smaller states such as Bulgaria are especially vulnerable to price volatility, supply disruptions, or geopolitical manipulation. Integration allows Bulgaria to benefit from coordinated EU responses, access shared infrastructure and reserves, and avoid being left to navigate crises alone. Cross-border electricity flows, made possible through centralized market rules, are critical in times of emergency, and help ensure that Bulgaria is not cut off from support during periods of strain. Centralized EU institutions such as the Agency for the Cooperation of Energy Regulators (ACER) and the European Commission enforce common rules that protect smaller countries like Bulgaria from market distortions or dominance by unfriendly adversaries or competitors. This safeguards Bulgaria's interests within a transparent, rules-based system.

CHILE

Libertad y Desarrollo, By Nicolas Duran

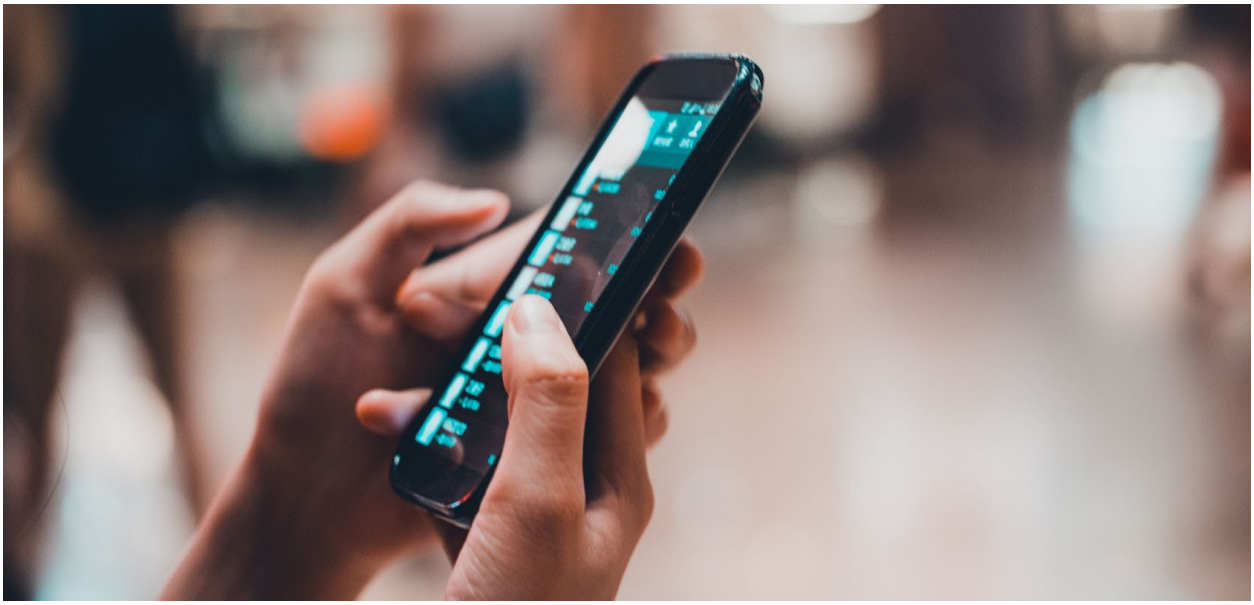
Although over the last 40 years Chile has been characterized by implementing a development model based on economic freedom and entrepreneurship, the truth is that in the last decade more and more regulations have been established, creating more bureaucracy and implementing policies that have hindered the development and operation of some markets. Therefore, rather than deregulation as such, what has been observed in a relatively recent period have been regulatory changes to promote free competition and some policies to reduce the costs of bureaucracy.

The Case of Number Portability

Number portability means that telephone users can change their telephone company while keeping their telephone number. In 2012, the number portability law began to operate in Chile, which mandated that companies use a centralized and coordinated technological system for number portability management, reducing information and operation costs. In this system, companies do not charge for portability, which gives consumers full freedom to choose their telephone provider.

Thus, the main benefit of number portability is the freedom of users to choose the telephone company that offers the best service and prices, while keeping their mobile number. At the same

time, tie-up and exclusivity contracts were eliminated, enshrining the right of users to terminate telephone service whenever they wish, without fines or obstacles. In addition, the option of changing one's mobile company with the same cellphone equipment was allowed, requesting an unlocking of the terminal at no cost to users.



The results show that a growing and significant number of consumers switch companies each year using number portability. In the first year, the portability rate was 3.1 percent, reaching 19.6 percent in 2017, and stabilizing at around 13.9 percent in 2024. This means that the extent of mobile phone porting between companies rose from 749,000 in 2012 to 4.4 million in 2017, reaching 3.6 million in 2024 (SUBTEL, n.d.). The growing trend toward number portability in Chile not only reflects a change in consumer preferences but also underscores the importance of flexibility and innovation in the telecommunications industry (CABASE, 2024).

Yet the impact of number portability in Chile goes beyond technology, as it directly affects competitiveness in the telecommunications market. Available evidence shows that the cross-elasticities of demand for mobile telephony between companies increased significantly after the introduction of number portability in the market, suggesting that competition in this market increased. Analysts also estimate that portability reduced the importance of price for consumers, since it is now less costly for users to change their telephone operator in case of making a bad decision when choosing a telephone company, making it easier to re-optimize and choose a new company (Sepúlveda, 2015).

The Case of Financial Portability

More recently, in 2020, the financial portability law began to operate, aiming to make it easier for individuals and micro and small businesses to change, if they deem it convenient, from one financial service provider to another, or from an existing financial product to a new one with the same provider (González Castillo, 2021). In addition, more information is provided to clients to compare and contract products with better commercial terms. The law simplifies, standardizes, and reduces the time and cost of the process for clients. This simplification of the process

encourages competition among banks and financial institutions to retain customers and attract new clients.

A study by Madeira (2020) estimates an empirical model of a refinancing decision calibrated considering the financial portability law. It finds that, if only the reduction in pecuniary costs is considered, the household refinancing rate increases from 17.9 percent before the law to 19.5 percent after the law, with expected welfare gains of $177 per borrower. If both the reduction in pecuniary costs and cognitive and information costs is considered, the refinancing rate could increase to 28.6 percent, with expected welfare gains reaching $1,344. The increase in refinancing rates occurs across all income levels, but the welfare gains in absolute terms are concentrated among those with higher debts.

In fact, after the entry into force of this law, a total of 201,475 requests for financial portability were registered in 2023, and more than 163,000 in 2024 (CMF, n.d.).

The Case of "Your Company in a Day"

In 2013, the "Your Business in a Day" law was enacted, which created a simplified business-opening regime that operates in parallel to the traditional opening regime and allows companies to migrate between regimes.

In the simplified regime, the opening process of a new company is carried out through the web page "Registro de Empresas y Sociedades" (or "Companies and Societies Registry" in English), where the procedures of: 1) legal incorporation of the company, 2) publication in the Official Gazette, 3) registration in the Commercial Registry, and 4) obtaining a tax ID are carried out simultaneously and electronically. In the traditional regime, these procedures are carried out separately and some of them must be performed in person. Thereafter, the following procedures are common to both the traditional and the simplified regimes.

This legislation aimed to simplify and accelerate business creation in Chile, allowing companies to be established online in less than 24 hours, significantly reducing the costs and bureaucracy of the traditional process.

Evidence shows that the implementation of the law increased the business creation rate by 3.4 percent, as well as increased the job creation rate by 1.1 percent in economic sectors most exposed to high entry cost fluctuations. Despite these positive effects, the law reduced the survival probability of businesses by 2.4 percent in the first year, 5.4 percent in the second year, and 6.4 percent in the third year for the most exposed firms (Caneo Gómez, 2022). This greater dynamism in the creation and destruction of new companies is not necessarily harmful, because it brings forward the results of these economic projects, and frees up these resources so that they can be used in new projects, enhancing the process of creative destruction.

While, in May 2013, 22.9 percent of the total number of new businesses were started through the simplified regime, by December 2024, 89.5 percent were opened using this mechanism. The adoption of this system allowed that, as of 2014, most new companies were opened digitally, reducing the average time to open a company from 27 to just 5.5 days. From 2013 to the end of 2024, a total of 1,277,614 companies have been created through the simplified regime (Ministry of Economy, 2025).

This legislation stands out as a milestone in the modernization of the Chilean entrepreneurial ecosystem and has facilitated access to formalization for thousands of new businesses.

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COLOMBIA

Cámara Colombiana de Informática y Telecomunicaciones (CCIT), By Germán Lopez Ardila

Deregulation in Colombia has not entailed an elimination of rules or a radical loosening of the legal order. Instead, the country has embarked on a process aimed at rationalizing, refining, and enhancing the quality of its regulatory framework in response to normative hypertrophy in particular sectors. The excessive and uncoordinated production of regulations by various state entities has resulted in a fragmented, contradictory, and difficult-to-interpret legal system. On that note, hyperregulated economic sectors have seen a process of deregulation with significant success.

Open Finance

One of the key examples of deregulation in Colombia has been the financial industry. In 2022, the Ministry of Finance and Public Credit (Ministerio de Hacienda y Crédito Público, or MHCP) enacted Decree 1297, a landmark reform that redefined the regulatory framework for open finance in the country. This new regulation broadened its scope to include a wide range of financial ecosystem participants such as banks, fintechs, pension funds, insurance providers, and brokerage firms.

With this measure, Colombia became the third country in Latin America (following Brazil and Mexico) to implement a regulatory framework for open finance, catalyzing innovation and the development of new financial products and services.

This regulatory advancement integrated key concepts such as open finance and open banking, grounded in standards that promote competition, financial inclusion, and service efficiency. By facilitating access to financial information, institutions are now better positioned to understand user profiles and forge strategic partnerships across industries. This has enabled an expansion of service offerings and strengthened competitiveness through tools such as payment interoperability.

In 2023, Colombia's Finance Superintendent (Superintendencia Financiera de Colombia, or SFC) released its first set of open banking guidelines. By 2024, the country had progressed in adopting open APIs that allow secure sharing of financial data with user consent.

In 2025, the Central Bank of Colombia (Banco de la República, or BanRep) launched Bre-B, an instant payment system enabling interbank transfers in under 20 seconds, regardless of the financial institution or digital wallet used by the consumers. More than a payment solution, Bre-B aims to become a cornerstone in building a more open, efficient, and interconnected financial ecosystem aligned with open finance principles.

The implementation of open finance marks a turning point in Colombia's financial modernization. It paves the way for greater inclusion, personalization, and operational efficiency. As more countries and stakeholders adopt these technologies, the future of finance is set to become more accessible, dynamic, and user centric. Within this context, technological readiness is not merely a regulatory necessity, but a strategic opportunity to innovate and remain competitive in an increasingly open financial environment.

"LaArenera": Regulatory Sandbox for the Financial Sector

The SFC has implemented a testing environment known as "LaArenera," which operates as a regulatory sandbox for the financial sector. This space allows companies to request temporary regulatory exemptions to test innovative solutions under the direct supervision of the SFC. These tests are carried out based on a plan previously agreed upon with the regulator, which monitors the process and evaluates the outcomes. The results may serve as inputs for future updates or adjustments to financial regulations, in line with technological developments in the sector.

Within "LaArenera," innovative entities can experiment with new business models, applications, processes, or products that incorporate emerging technologies or significantly impact financial services. Priority is given to proposals that offer tangible benefits to financial consumers, promote financial inclusion, contribute to the development of financial markets, or enhance competition among regulated entities.

One of the main benefits of operating in LaArenera is that it enables entities to test emerging technologies and innovative business models in a controlled environment, fostering digital transformation within the Colombian financial system. Additionally, it lowers barriers for new market participants, broadening access to financial services and promoting financial inclusion. The supervised nature of this space ensures that tests are conducted without endangering the stability of the financial system or compromising consumer protection, maintaining a balance between innovation and oversight.

Examples of tests conducted within "LaArenera" include cash-in and cash-out operations through crypto-asset platforms, the issuance of bonds using blockchain technology, and the development of solutions based on distributed ledger technology (DLT). These initiatives reflect the regulator's commitment to technological advancement in the financial sector and its openness to disruptive models capable of positively transforming the country's financial ecosystem.

Exploratory Regulation Measures

In Colombia, Exploratory Regulation Measures (Mecanismos Exploratorios de Regulación, or MER) are tools designed to facilitate innovation in regulated sectors through controlled testing environments. They are regulated by Decree 1732 of 2021, which implements the provisions of Article 5 of Law 2069 of 2020 (the Entrepreneurship Law). Their purpose is to allow companies, public entities, or partnerships between both to experiment with new business models, products, or services that do not fully fit existing regulations yet, while remaining under government supervision.

These mechanisms operate as temporary spaces where the application of certain rules is relaxed to evaluate, under real conditions, the impact of regulatory or technological innovation. The key point is that this experimentation does not necessarily imply an immediate regulatory change but generates useful evidence for authorities to make more insightful decisions about potential normative reforms.

The implementation of MERs in Colombia is inter-institutional. It involves entities such as the Ministry of Commerce, Industry, and Tourism; iNNpulsa Colombia; the ICT Ministry; the Communications Regulation Commission; the SFC; and other sectoral authorities. These institutions evaluate and approve proposals, ensuring fundamental criteria are met. On that note, innovations should have an identifiable social benefit, the need for regulatory flexibility should be clearly justified, there should be defined limits for the project (e.g., time lapse, geographic scope, and population), and risk mitigation measures should be put in place to protect consumers.

One of the main potential benefits of MERs is that they promote the development of emerging technologies (such as blockchain, AI, fintech, insurtech, edtech, agrotech, among others), in a safe environment with institutional support. Thanks to these spaces, authorities are able not only to protect citizens but also to allow regulations to evolve based on empirical evidence. This avoids hindering innovation due to outdated regulations, without compromising the stability of the involved sectors.

COSTA RICA

IDEAS Labs, By Luis E. Loría

Attracting High-Tech FDI

Costa Rica is recognized globally for its success in attracting high-value foreign direct investment (FDI), particularly in the high-tech and life sciences sectors. A landmark moment came in 1997 with Intel's decision to build a microprocessor plant in the country, marking a pivot from a traditional agricultural economy to a technology hub.

Strategic Leadership and Institutional Foundations

Costa Rica's FDI success stems from strategic vision and institutional innovation. The government, under President José María Figueres (1994–1998), made deliberate moves to position the country as an attractive destination for advanced manufacturing and R&D. Figueres famously declared: "We want Intel not just for jobs, but to send a message to the world that Costa Rica is open for innovation."

The Costa Rican Investment Promotion Agency (CINDE), operating as a non-profit public-private hybrid, played a pivotal role by offering tailored site selection services, workforce development programs, and long-term investor support.

Results and Transformative Impact

The Intel investment has had a powerful demonstration effect, catalyzing the arrival of other global players such as HP, Boston Scientific, and IBM. Today, over 350 multinational companies operate under the Free Trade Zone (FTZ) regime, contributing more than 50 percent of Costa Rica's exports and generating tens of thousands of high-skilled jobs. The country has developed specialized talent pipelines through partnerships with technical institutes and universities.

Challenges and Evolving Priorities

Costa Rica faces rising competition from other emerging economies offering similar tax incentives. Additionally, skills mismatches, infrastructure bottlenecks, and regulatory complexity remain key constraints. To sustain momentum, the country is focusing on ecosystem development, moving beyond assembly to design, research, and innovation-driven value creation.

The "Revolutionary Sandbox": A Viable Alternative to the Regulatory Sandbox Model for Latin America

In 2019, Costa Rica explored the development of a new policy instrument to accelerate disruptive innovation: the "Revolutionary Sandbox"—an alternative to traditional regulatory sandboxes. The proposal emerged from a nine-month project led by Luis E. Loría (IDEAS Labs) and Adriana Ruiz Marchini (Agami Studios), with support from the British Embassy. The initiative focused on the blockchain/fintech and design/innovation ecosystems.

Why Traditional Sandboxes Don't Fit

While regulatory sandboxes—such as the United Kingdom' Financial Conduct Authority model—have become popular in developed markets, they are not viable in Latin America. This divergence is deeply rooted in legal systems. Under common law systems, regulators can use discretionary authority to create regulatory sandboxes that allow select companies to operate temporarily outside existing regulations. In contrast, in civil or Roman law systems like Costa Rica's, regulators lack that discretion—they must apply the law uniformly and cannot legally exempt firms from compliance. As a result, the conventional sandbox model is legally unviable without legislative reform.

The Revolutionary Sandbox Proposal

Firms entering a Revolutionary Sandbox cohort commit to defining a business model that will comply with four key objectives: 1) a world class product or service; 2) a disruptive innovation; 3) scalable; and 4) the solution will be offered in the global market. In return, they will have access

to a comprehensive suite of 10 services and support mechanisms designed to accelerate experimentation and learning: 1) curated problem statements aligned with national priorities, 2) rapid prototyping facilities, 3) interdisciplinary innovation labs, 4) structured peer-to-peer learning sessions, 5) co-investment opportunities, 6) sandbox-branded pilot environments, 7) access to data and real-use cases, 8) legal and regulatory orientation, 9) mentoring from global experts, and 10) visibility and validation through public-private demonstration platforms. These elements are structured to foster creative, agile responses to complex policy and development challenges without the need for regulatory exemptions.

Benefits and Potential for Scale

Costa Rica's Revolutionary Sandbox offers a promising alternative to regulatory sandbox models, especially in jurisdictions with weak regulatory capacity. By shifting the focus from deregulation to collaborative experimentation under real constraints, it provides a more context-appropriate and scalable framework for driving innovation in Latin America and other developing regions.

Bitcoin Mining and Energy Regulation: The Case of Data Center CR

Costa Rica's abundant renewable energy—over 99 percent of its electricity is generated from renewable sources—has long been a point of national pride. However, excessive state intervention, rigid pricing structures, and bureaucratic inertia in the energy sector have led to significant inefficiencies, including energy surpluses that go unused. In this context, a new business model emerged: Bitcoin mining as a way to absorb idle energy capacity and convert it into economic value.

The Case of Data Center CR

Founded in 2021, Data Center CR is Costa Rica's first large-scale bitcoin mining operation. Located in the province of Alajuela, the company repurposed a hydroelectric plant previously decommissioned due to lack of demand by the Costa Rican state-owned energy company. By converting stranded renewable energy into crypto-assets, Data Center CR offers a compelling example of decentralized innovation in response to centralized inefficiencies.

Drivers and Innovation Dynamics

The emergence of Data Center CR reflects a bottom-up response to top-down regulatory constraints. Bitcoin mining, a globally distributed and energy-intensive activity, found an unexpected niche in Costa Rica:

- Idle infrastructure: Hydroelectric plants unable to sell to the grid due to state-controlled monopolies.
- Renewable credibility: Environmental legitimacy that attracts international crypto investors seeking green mining.
- Innovation under constraint: Workarounds to navigate pricing rules and sell power directly to the data center.

Conclusion

The rise of bitcoin mining in Costa Rica is a revealing case of entrepreneurial adaptation to regulatory rigidity. It underscores how innovative business models can emerge from inefficiencies in public utilities and highlights the need to modernize energy policy. As Costa Rica rethinks its

role in the digital and green economy, cases like Data Center CR may offer both lessons and warnings for the future of decentralized innovation.

ECUADOR

Ecuadorian Chamber of Innovation and Technology (CITEC), By Andres Vega

The truth is that Ecuador has historically struggled with deregulation. The country often equates development with increased regulation, resulting in heavy and complex frameworks. This regulatory burden has hindered effective public-private cooperation and limited the ability of the productive ecosystem to respond to the dynamics of innovation and competitiveness. Excessive bureaucracy translates into higher costs for businesses and entrepreneurs, discouraging formalization and investment.

Early Steps Toward Regulatory Improvement

Despite these challenges, Ecuador took a first step in 2020 with Executive Decree No. 1204, which declared regulatory improvement a government policy. Its objective was to ensure more efficient governance, improve legal certainty, promote entrepreneurship, and enhance competitiveness by reducing unnecessary or burdensome regulations.

More recently, President Daniel Noboa strengthened this process through Executive Decree No. 151 (2024), which updated and reactivated the regulatory improvement framework. The decree assigns the General Legal Secretariat of the Presidency as the central coordinating body, with authority to issue binding guidelines, manage a Regulatory Registry, and ensure that public agencies simplify and evaluate regulations. This represents a renewed effort to modernize Ecuador's regulatory environment.

Despite all these efforts, there's not been an improvement in the short term... Nevertheless, Ecuador does have some positive stories about deregulation

The Impact of SAS

A success story of deregulation in Ecuador is the creation of Simplified Stock Companies (Sociedades por Acciona's Simplificadas, or SAS), introduced by the Organic Law of Entrepreneurship and Innovation in 2020.

SAS provides a simplified legal structure for entrepreneurs, enabling one or more individuals to incorporate a company through a private document, eliminating most of the costly formalities of traditional company types. Key features include:

- Flexible incorporation: Creation through private documents registered with the Superintendent of Companies, without the need for a public deed in most cases.
- Limited liability: Shareholders are liable only up to their contributions.
- No minimum capital requirement: Making it easier to start businesses with fewer entry barriers.
- Flexible capital payment: Up to 24 months allowed for full payment of subscribed capital.

- Digital modernization: SAS can be incorporated electronically, reducing in-person procedures and aligning with global practices.

Evidence of Business Growth Through SAS

The introduction of SAS has had a measurable impact on entrepreneurship in Ecuador. According to the Superintendent of Companies, Securities and Insurance, as of mid-2025, 75,576 companies had been incorporated as SAS, representing approximately 45 percent of all active companies in the country. This demonstrates that in just five years, SAS have become the preferred legal structure for nearly half of Ecuadorian businesses, highlighting the effectiveness of deregulation in fostering formalization and economic dynamism.

Deregulation Through the Fintech Law: Removal of Forced Data Localization

Another important step toward deregulation in Ecuador was the approval of the Organic Law for the Development, Regulation, and Control of Financial Technology Services (Fintech Law) in December 2022.

Before this reform, Ecuador's Código Ingenios (Code of Knowledge Economy and Innovation), through Article 176, imposed a forced data localization rule, requiring that most types of data be hosted within Ecuadorian territory. This provision generated significant obstacles for innovation, particularly for financial technology companies and digital service providers, as it limited their ability to adopt international cloud solutions and hindered competitiveness.

The Fintech Law eliminated this restrictive provision and replaced it with a framework that classifies data according to its level of sensitivity (reserved, confidential, or open). Under the new system, only data explicitly classified as reserved or confidential for reasons of national security must remain within Ecuador, while all other types of data can be managed using international standards and global data storage solutions.

This regulatory change aligns Ecuador with international best practices, reduces unnecessary barriers to entry for Fintech companies, and facilitates the integration of Ecuadorian innovators into global financial and technological ecosystems. By removing forced data localization, Ecuador has enabled local fintechs to access world-class cloud services, scale more rapidly, and offer competitive digital solutions.

However, despite this regulatory advance, Ecuador still lacks comprehensive country-level data on how the elimination of forced data localization has directly benefited the national fintech ecosystem. While anecdotal evidence suggests greater flexibility and competitiveness, systematic measurement of its impact remains pending.

Conclusion

Ecuador still faces significant challenges in advancing deregulation. The national culture of overregulation continues to hinder public-private cooperation and restrict innovation. However, the SAS model and the renewed regulatory improvement policy under President Noboa prove that when Ecuador adopts modern and flexible frameworks, it can achieve results: simplified procedures, greater business formalization, and a more dynamic investment climate.

This case provides a concrete example of how smart deregulation, focused on simplification and the reduction of barriers, can foster entrepreneurship, competitiveness, and inclusive economic growth.

GERMANY

German Economic Institute, By Hubertus Bardt, Bertold Busch, Thomas Puls

A tremendous wave of deregulation in Germany took place in the 1980s and the early 1990s. Many markets were opened. One example is the reform of the electricity market in 1998, which had been dominated by regional monopolies of publicly owned companies. In order to introduce competition into the electricity market, it was necessary to define the rules that would keep markets open. A natural monopoly such as the electricity grid needs special regulation to promote and maintain competition. Therefore, market liberalization often goes hand-in-hand with regulation. Today, deregulation initiatives tend not to be very fundamental, as there are not many markets left to be opened and liberalized. Deregulation therefore tends to be a reform of existing regulation, with less fundamental changes but important advances in detail. However, there are more recent examples of further liberalization and deregulation.

Mail Order Business for Medicines

In 2003, the European Court of Justice (ECJ) ruled that the ban on cross-border mail-order sales of pharmaceuticals was illegal. It considered this to be a measure having an equivalent effect (that is, having the same effect as the quantitative import restrictions prohibited under EU law). In Germany, the ban on mail order sales of non-prescription medicines was repealed on January 1,

2004 by an amendment to the law, although Germany did not wait for the ECJ ruling. Interestingly, mail order medicines were only banned by law in Germany in 1998. It was only then that the mail order business became significant in Germany.

The mail order trade in medicines has been dominated by a few large suppliers. However, smaller operators are also active in this sector. According to estimates by the Federal Association of German Mail Order Pharmacies, around 2,500 of the approximately 18,400 public pharmacies were licensed as mail order pharmacies in 2022, although only around one-third of these were engaged in serious mail order sales of medicines. Total sales in the non-prescription sector (medicines, health products, cosmetics, body care products, and medical supplies such as tests and aids as well as special food) amounted to just under €3.2 billion ($3.74 billion) in Germany in 2023. In the first half of 2024, turnover was already at €2.04 billion ($2.38 billion). In 2020 as a whole, it was still €2.5 billion ($2.92 billion). The restrictions during the COVID-19 pandemic are also likely to have boosted online sales of medicines. Mail order sales (domestic and international) accounted for 21.3 percent of sales of over-the-counter (OTC) medicines in 2023.

Although mail order sales of prescription drugs (Rx) are also permitted in Germany, they do not yet play such a significant role. According to a 2020 survey, 58 percent of people in Germany have ordered medicines from an online pharmacy, but only 17 percent have also ordered prescription medicines. However, electronic prescriptions could also change this for this market segment as well, as paper prescriptions no longer need to be sent by post.

This shows that new technologies and innovations, which include the emergence and spread of e-commerce, can not only have an impact on the structure of the sector, but can also bring benefits to consumers, who benefit from lower prices as a result of increased competition in the pharmaceutical retail sector. Additional advantages include the ability to order from home and home delivery. Brick-and-mortar pharmacies have already responded to the intensification of competition. They now also offer a home delivery service. In recent years, some community pharmacies have increasingly offered special deals on over-the-counter medicines. Mail-order pharmacies also provide a lesson in how technological development, innovation, and the regulatory environment can influence each other.

Opening Road-based Freight and Long-distance Bus Transport

The German freight transport market provides a good example of how the liberalization of a closed system can trigger major leaps in efficiency for the benefit of customers. For around 70 years, German freight transport was governed by a dense network of legal regulations designed to control prices and volumes. This was particularly true for commercial road transport. There were legally defined numbers of registered trucks for different purposes. In addition, transport prices were set by a government commission, which based its pricing heavily on the costs of the German railways. The restrictive transport market regulations had their origins in the reparations agreements of the 1920s. At that time, the profits of the "Reichsbahn" were pledged, which is why it had to be protected at almost any price. The main features of the resulting regulations remained in force until the mid-1990s. When the market economy entered the German freight transport sector, the level of road transport charges fell abruptly by almost one-quarter. In addition, many new competitors entered the market, leading to considerable efficiency gains. This development was

further fueled by the removal of restrictions on foreign competitors. Today, the market is characterized by fierce competition, which in some aspects has become too intense.

The commercial passenger transport market in Germany was also severely restricted for almost 80 years. The Passenger Transport Act of 1935 effectively prohibited the establishment of a commercial long-distance bus line on routes longer than 50 km in length if the route was already served by rail. This rule remained in place until the end of 2012, with only a few exceptions for political reasons. For example, there was a long-distance bus service operated by the "Bundesbahn" through the German Democratic Republic to West Berlin. There were also European legal requirements that permitted the opening of long-distance bus routes with destinations abroad. However, passengers were not allowed to board and disembark without crossing the German border. The rules were significantly liberalized in 2013. Since then, the establishment of commercial long-distance bus services has been permitted in principle. One exception is a ban on commercial transport on routes of less than 50 km, which is intended to protect local public transport. The creation of an alternative in long-distance commercial passenger transport led to a rapid expansion of services, which was also accepted by customers. In the last year before the reform (2012), the offer amounted to just over 1.5 billion seat-kilometers. After liberalization, the offer grew rapidly. It rose to 3.9 in 2013 and more than 8 billion seat-kilometers in 2014. Supply remained at around this level until the outbreak of the pandemic. The situation on the demand side was similar. While there were still 2 million domestic journeys in 2012, this figure had already risen to 6.7 million in 2013. By the time the pandemic hit, passenger numbers had stabilized at around 16.5 million. However, it should also be noted that there is almost no competition in long-distance bus services. Almost all companies that entered the market in 2013 have either withdrawn or been bought up by the market leader. Liberalization has therefore mainly led to intermodal competition rather than intramodal competition.

The liberalization of the German transport sector was essentially initiated by Brussels. Another liberalization initiative is currently coming from there, which gives hope for progress. The "Industrial Action Plan for the European Automotive Sector," presented in March 2025, states that the Commission wants to standardize the rules for testing autonomous vehicles and open up international transport corridors for such tests. The lack of such regulations has so far proved to be a barrier to competition with the United States and China, where the regulations for road testing are much more generous, with the result that entire fleets of vehicles are already being tested in these countries. The major German car manufacturers also have test licenses in China, while Europe is lagging behind.

KOREA

Asiatic Research Institute, Korea University, By Kyungjin Song

Lessons Learned From Korea's "Regulation Sandbox" Policy

Global Context

A strong startup and innovation ecosystem is now a core driver of national competitiveness. The 2024 Startup Genome report values the U.S. startup ecosystem at $3.9 trillion, or roughly 14 percent of national GDP, showing the outsized role of innovation in economic growth.[35]

China presents another model of transformation. Once known as the "world's factory," it has become a global tech leader, having produced over 150 unicorns and advancing in AI, robotics, and computer vision. The recent debut of DeepSeek, a large language model, demonstrates China's growing capabilities. A Cambridge study attributes a significant share of China's economic growth to deregulation in upstream sectors, enabling rapid innovation and industrial advancement.[36]

In both countries, deregulation has been a key enabler of innovation. In the United States, a series of governmental initiatives to reduce regulatory barriers and encourage innovation are in effect, such as non-binding, voluntary safety clauses for automated vehicles in the "Automated Vehicles 4.0" strategy.[37] On the other hand, China used phased, top-down reforms to open space for experimentation. These cases show that timely and smart deregulation can unlock private-sector innovation, attract investment, and strengthen global competitiveness.

Regulations and the Startup and Innovation Ecosystem in Korea

In Korea, the startup ecosystem has grown over the years on the back of aggressive government initiatives, now ranked 20th in the top global startup ecosystem.[38] It is home to 13 unicorn companies as of 2024, a considerable growth considering there were none in 2013.[39]

However, despite this progress, regulatory barriers remain a persistent source of frustration for many startups and tech-driven enterprises. According to a survey by the Federation of Korean Industries, a large share of businesses expressed dissatisfaction with the regulatory environment—25.8 percent citing the introduction or strengthening of sector-specific regulations, and 24.7 percent pointing to a lack of meaningful progress in reforming existing rules.[40] Similarly, a survey by the Korean Chamber of Commerce and Industry found that 53.7 percent of 433 high-tech firms view Korea's regulatory framework as more burdensome than that of global competitors, while 72.9 percent reported regulatory compliance as a major constraint.[41] These findings highlight the urgency of advancing regulatory reform to fully unlock the potential of Korea's startups and sustain their global competitiveness.

Case Study: Tada—Regulatory Pushback in Mobility Innovation

While Korea's startup ecosystem shows promise, the disconnect between innovation and regulation has, in some cases, led to direct harm—not only to pioneering companies, but to the broader perception of Korea as an innovation-friendly economy. A prominent example is the case of VCNC, the startup behind the mobility platform "Tada."

Launched as a subsidiary of the travel-tech firm SoCar, VCNC introduced Tada in 2018 as a ride-hailing service using 11-seater rental vans with drivers. This model allowed the company to legally bypass Korea's existing taxi regulations, offering a new form of mobility service that quickly gained traction among consumers. In 2020, Tada began expanding to Southeast Asian markets such as Singapore, Thailand, and Vietnam—seeking to position itself alongside regional giants like Uber and Grab.

Tada's initial success stemmed from leveraging a regulatory grey area, rather than formal sandbox approval. Although the central government briefly explored supporting mobility innovation through regulatory hackathons and public discourse, opposition from the taxi industry and local governments ultimately shaped the outcome. The Seoul Metropolitan Government pushed back strongly against ride-sharing platforms, requesting formal investigations and applying strict

interpretations of legal loopholes. In response to mounting pressure, the National Assembly passed a revision to the Passenger Transport Service Act in 2020, widely referred to as the "Tada Prohibition Act." This amendment explicitly restricted the use of rental vans for ride-hailing services, effectively forcing Tada to suspend its original business model.[42]

The fallout was significant. VCNC, which had been operating around 1,000 vehicles with plans to double its fleet by the end of 2019, was forced to abandon its growth strategy and reevaluate its business entirely. At the same time, deregulation in the taxi franchise industry introduced new, unforeseen competition, placing further strain on startups. While taxi franchises were allowed to scale with few restrictions, startup operators faced tighter controls, including caps on fleet sizes and stricter licensing conditions.

The case of Tada reflects more than a single policy failure—it highlights the broader risks of regulatory volatility in politically sensitive sectors. Despite belated efforts to amend the regulatory framework for platform-based transport services, stringent entry conditions and unclear approval pathways have deterred new entrants. As of 2024, four years after Tada's suspension, only a handful of new businesses have successfully entered the market. This chilling effect on mobility innovation underscores the urgent need for predictable, forward-looking regulatory approaches that balance innovation with stakeholder interests—rather than defaulting to protectionism at the cost of long-term competitiveness.

Understanding Korea's Regulatory Sandbox: Concept and Local Adaptation

The Tada case underscores the high stakes of regulatory inertia and the broader risks faced by startups operating in uncertain legal environments. In response to growing concerns from the innovation community and following public debate over the need for more flexible governance tools, the Korean government sought to institutionalize a more systematic and forward-looking approach to regulation. This led to the formal launch of Korea's regulatory sandbox policy in January 2019, designed to create a structured framework for testing and validating new technologies—without the immediate constraints of existing regulations and shadow regulation.

A regulatory sandbox refers to a policy tool that grants firms a temporary exemption or flexibility from certain regulations, allowing them to test innovative products, services, or business models in a controlled environment. Typically overseen by relevant regulatory authorities, sandbox programs aim to balance innovation with public interest by including safeguards such as consumer protection mechanisms. The concept was first introduced by the British government in 2016 to promote innovation in the financial sector and has since been adopted by over 50 countries worldwide, including Korea.

While the original model focused primarily on financial services, Korea has significantly expanded and localized the sandbox approach. Learning from early adopters such as the UK, Korea's version of the regulatory sandbox is broader in scope, covering not only finance but also real-economy sectors such as ICT, mobility, healthcare, and manufacturing.

Launched in January 2019 following enabling legislation, Korea's sandbox initiative aims to make its science and technology regulations more innovation-friendly, moving away from a rigid, positive-list framework. Unlike many countries that rely solely on the "experimental exemption" model, Korea introduced two additional mechanisms to enhance business responsiveness and clarity:

- Temporary Permits: Allow companies to launch innovative services or products immediately if no significant safety or legal concerns are identified, enabling faster market entry.
- Rapid Confirmation: Offers a quick, government-led assessment of whether existing regulations apply to a new business model—resolving regulatory uncertainties at an early stage.[43]

Together, these features demonstrate Korea's proactive effort to design a regulatory environment that fosters innovation across diverse industries, not just in finance. By providing legal clarity and flexible pathways to market, the Korean regulatory sandbox aims to reduce barriers for emerging technologies and startups, while maintaining necessary safeguards for consumers and society.

How Did the Regulatory Sandbox Impact the Startup Ecosystem?—Case Studies

Since its launch, Korea's regulatory sandbox has served as a practical mechanism to reduce regulatory uncertainty and lower market entry barriers for startups across a range of industries. By allowing firms to test innovative services without being hindered by outdated rules, the policy has enabled early validation of business models and accelerated commercialization. The following case studies illustrate how the sandbox policy has translated into tangible outcomes on the ground, particularly in sectors such as fintech and mobility, where rapid technological advancement often outpaces regulatory adaptation.

Fintech Industry

The fintech sector has been one of the most prominent testing grounds for Korea's regulatory sandbox policy since its launch in 2019. Recognizing the potential for financial innovation through technology, the Korean government prioritized fintech as a strategic entry point for the sandbox initiative.[44] The Financial Services Commission, Korea's ministry-level financial regulatory authority, is responsible for administering the program in this sector. Businesses approved under the framework are designated as providers of "Innovative Financial Services," granting them temporary exemptions from certain regulations to test new business models under government oversight.

Early evidence suggests that the sandbox has delivered meaningful impact in the fintech industry. According to a 2020 Korea Development Institute report, 36 fintech firms selected for the program saw their average investment more than double within a year—from KRW15.3 billion ($11 million) to KRW37.7 billion ($27 million).[45] Collectively, these firms raised over KRW2.57 trillion ($1.85 billion), highlighting the sandbox's effectiveness in attracting capital and reducing regulatory uncertainty for investors.[46] Additionally, the Financial Supervisory Service (FSS) estimates that the policy has contributed to the creation of approximately 2,220 new jobs, further demonstrating its economic relevance.[47]

The sandbox has also served as a critical tool for modernizing regulatory practices. It has enabled financial institutions to adopt previously restricted technologies—most notably, the use of cloud-based Software as a Service (SaaS) platforms for internal operations. Major banks such as Kookmin Bank and Shinhan Bank have begun integrating AI tools such as Microsoft 365 Copilot into their workflows, increasing productivity and operational efficiency.[48] Beyond SaaS, the sandbox has supported the controlled testing of technologies including AI, blockchain, and cloud computing. These developments are helping to position Korea's financial sector for greater competitiveness and digital transformation, while maintaining safeguards for consumers and market stability.

Case Study: Viva Republica (Toss)

One of the most-prominent beneficiaries of Korea's regulatory sandbox policy has been Viva Republica, the fintech company behind the widely used mobile application Toss. Established in 2013 in Seoul, Viva Republica began by offering a simple and fast money transfer service and has since expanded into a comprehensive financial platform, now operating Toss Bank, Toss Insurance, and Toss Investment. It is also the only Korean firm listed among the world's top 100 unicorns, reflecting its global relevance and domestic impact.

The company's breakthrough moment in regulatory innovation came through the sandbox policy, which enabled the launch of its "Find My Best Loan" service. This platform allows users to compare loan products from multiple financial institutions and select the most favorable option based on individual credit profiles. The service was made possible through a temporary exemption from Korea's "Exclusive Representation Principle"—a regulation that historically required consumers to consult with only one financial institution or intermediary at a time when applying for a loan.[49] While originally designed for an offline, brick-and-mortar banking environment, this regulation posed a significant barrier to digital innovation and consumer empowerment. The sandbox allowed this outdated rule to be bypassed, opening the door for Toss to introduce a service that streamlined the borrowing process, improved market transparency, and enhanced consumer choice.

The impact was immediate and significant. Within a year of launching the service, Toss processed over 23 million loan applications, with KRW193 trillion ($139 billion) in cumulative loan offers and approximately KRW1.2 trillion ($865 million) disbursed.[50] By March 2024, the loan comparison and recommendation platforms in the financial industry in total had facilitated 166,580 user transactions, amounting to KRW74 trillion ($53 billion) in total loan recommendations.[51] The service is widely regarded as one of the most successful use cases of Korea's financial regulatory sandbox, setting a precedent for similar comparison and recommendation tools across the industry. It has not only expanded financial access and convenience for consumers but also introduced a more competitive dynamic into Korea's lending market—demonstrating the sandbox's capacity to drive both business innovation and systemic regulatory reform.

In 2024, Toss reached a valuation of $7 billion and achieved its first annual operating profit of KRW 90.7 billion ($65 million).[52] Its remarkable growth is reflected in its 21 million monthly active users as of May 2025, placing it first in the financial sector ahead of Samsung Wallet and Kakao Bank.[53] Toss has established itself as a leading innovator in the financial industry through its continued efforts to integrate new services such as 24/7 global remittances and facial recognition payments.

Mobility Industry

Recognizing the growing need to support the mobility sector as a strategic engine of future economic growth, the Korean government expanded the scope of its regulatory sandbox to directly address mobility-related innovations. The Ministry of Land, Infrastructure, and Transport, which oversees transportation policy, officially launched the Mobility Regulatory Sandbox on October 19, 2023. This move sought to create an institutional foundation that enables startups and tech firms to pilot new mobility services—ranging from autonomous vehicles to smart logistics—within a more flexible regulatory environment.[54]

While it remains early to fully evaluate long-term impacts, initial indicators suggest meaningful progress. According to data from the Korea Transportation Safety Authority, 117 of 138 applications (84.7 percent) have already been processed, resulting in 34 regulatory exemptions, 10 of which have advanced to real-world pilot operations. Importantly, the approval and commercialization process has been notably accelerated: the average time required for special approvals has been reduced by 24.1 days, while the period from approval to business launch has shortened by approximately 109 days compared to traditional regulatory pathways.[55]

This more responsive regulatory approach has been met with strong support. Surveys conducted among participating firms and users of pilot services recorded high satisfaction scores—91.4 from businesses and 90 from service users.[56] Although the full effect of the Mobility Regulatory Sandbox will become clearer over time, these early outcomes suggest that the framework is helping to lower regulatory friction, improve time-to-market, and build trust between government and mobility innovators.

Korea's Recent Adjustments to the Regulatory Sandbox Policy

While Korea's regulatory sandbox has made meaningful contributions to reducing barriers and accelerating innovation, its implementation has also revealed important structural limitations—prompting the government to reevaluate and refine its approach. These lessons have shaped the development of a new and more proactive framework, "Regulatory Sandbox 2.0," launched in 2024 to expand the policy's reach, effectiveness, and long-term impact.

Initially, Korea's sandbox policy was largely reactive in nature, granting exemptions in response to company-initiated applications. While this model produced early wins and helped demonstrate regulatory flexibility, it also exposed several gaps. The focus on short-term performance metrics, such as the number of exemptions issued, came at the expense of deeper, sustained support for commercialization. Startups were often left to navigate fragmented processes with limited centralized assistance, and the absence of a forward-looking regulatory strategy meant that many underlying structural barriers remained unaddressed.[57]

To respond to these challenges, the Ministry of Trade, Industry, and Energy (MOTIE) launched Sandbox 2.0 in March 2024, marking a shift toward a more strategic and proactive approach to regulatory innovation. The upgraded framework emphasizes identifying regulatory pain points in advance, especially in high-potential sectors such as energy, biotech, and mobility, and proactively recruiting firms to participate in sandbox projects rather than waiting for applications.

According to MOTIE, the new system is built on three key pillars: 1) proactive problem solving, where government agencies initiate reforms; 2) full-cycle support, offering assistance from application to commercialization; and 3) collaborative governance, engaging multiple stakeholders to align regulatory reform with market needs.[58]

Among the most notable features of Sandbox 2.0 has been the introduction of a "Planned-type Regulatory Sandbox," which allows the government to design high-impact regulatory reform agendas and directly recruit businesses to participate. In parallel, a dedicated Regulatory Special Exemption Support Team, operated by the Korea Institute for Advancement of Technology, now offers end-to-end consulting and commercialization support. This includes hands-on assistance

from the application stage through the exemption period and into market entry—ensuring that policy benefits are not only granted but fully realized.

With its expanded scope and institutional backing, Sandbox 2.0 aims to advance the global standard in innovation-friendly regulation, ensure regulatory certainty for businesses entering new industries, and help Korea remain competitive in a rapidly evolving global innovation landscape.

Following President Lee Jae-myung's inauguration in June 2025, the government signaled its intent to improve access to regulatory information and promote demand-centered regulatory discovery through advanced, user-centered AI systems. The new administration has announced plans to pursue AI-driven regulatory reform as a key policy direction. While specific implementation details are yet to be released, the initiative has been positioned as a central component of the administration's broader regulatory innovation agenda.

Lessons Learned and Policy Recommendations to Further Refine Korea's Regulatory Sandbox

Korea's regulatory sandbox has served as a valuable tool in lowering entry barriers and enabling early-stage innovation, helping to attract KRW1.8 trillion ($1.3 billion) in investment and to create over 14,0000 jobs as of the first half of 2023 since its launch in January 2019. However, as Korea seeks to transition from a fast follower to a global innovation leader, further refinements are needed to ensure the sandbox policy becomes a long-term driver of competitiveness.

First, Korea should establish a presidential-level control tower that oversees all policymaking decisions and implementation processes regarding regulatory reform. To effectively coordinate between different ministries and agencies, establishing an office by presidential mandate would be crucial for ensuring successful and sustainable interagency collaboration.

In close coordination with the Regulatory Reform Committee in the Prime Minister's Office, the presidential office should streamline administrative processes to reduce bureaucratic burdens and delays for businesses. This would not only ease the Sandbox application process but could also shorten the approval periods that currently average about 86 days.[59] In addition, the office should create a preemptive platform for consensus-building, particularly in politically sensitive sectors, to manage regulatory conflicts early and reflect outcomes in policy design.

Finally, Korea should accelerate the shift toward a comprehensive negative regulatory system and minimize shadow regulation, allowing activities by default unless explicitly restricted. While progress has been made, broader implementation across sectors is essential to foster a truly innovation-friendly environment. By embracing these reforms, Korea can elevate the sandbox from a pilot tool to a core pillar of its national innovation strategy.

I would like to acknowledge the assistance of Jaemyung Lee, Dain Choi, and Seulgi Lee.

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INDIA

The Dialogue, By Kriti Singh

Over the past decade, India has focused on deregulation across various sectors to unlock innovation and market growth. The current government, presently in the midst of its third tenure, has taken significant steps to roll back restrictive rules and streamline bureaucratic processes, creating a platform for new entrants and enabling new ideas to flourish. These efforts have worked in tandem with the Indian Government's flagship "Make in India" initiative, which aims to transform the country into a global manufacturing hub by reducing compliance burdens, liberalizing investment norms, and incentivizing domestic production. Together, deregulation and "Make in India" have provided both the policy clarity and institutional support needed to attract investment and accelerate industrial innovation.

This report highlights three recent cases in the sectors of space technology, unmanned aviation, and state-level industrial licensing, where deregulation has propelled innovation or improved

competitiveness. Each example outlines the regulatory context, the reforms implemented, and the resulting outcomes concerning investments and market expansion.

Opening the Space Sector to Private Innovation

For decades, India's space activities were under the strict eyes of the government-controlled Indian Space Research Organization (ISRO), with private players restricted to being vendors. Stringent regulations resulted in barring non-government entities from launching satellites or rockets. However, in 2020, the Indian government, as a part of its economic stimulus package, announced a historic liberalization of the space sector. This was done by creating a new regulator (IN-SPACe) and formulating the Indian Space Policy, 2023, which effectively opened the door for private companies to build satellites, operate launch vehicles, and offer space services. This marked a fundamental shift from a state monopoly to a competitive and innovative ecosystem.[60]

The impact of these reforms has been dramatic. India's private space industry has boomed, with the number of private space companies jumping from just 11 in 2019 to over 400 by 2024. Within this, over 200 startups have infused fresh ideas into the sector, right from small satellite manufacturers to rocket launch startups, something that simply did not exist under the old regime.[61] A recent study projected India's space economy's growth at almost a fivefold level in the coming decade. The understanding is that this will be fueled by the new age innovation and investments brought in by the private sector.[62]

A notable example is that of Skyroot Aerospace, which made history in November 2022 by launching Vikram-S, the first privately built Indian rocket, from ISRO's Sriharikota range. Such milestones underscore how deregulation has given impetus to fresh entrepreneurial energy, where new private ventures are finding innovative ways to develop cost-efficient launchers, satellite constellations, and space-focused applications ranging from agriculture to broadband services.

Hence, the shift from a state-controlled ecosystem to an open approach allowed India to tap market forces, resulting in accelerated technological development and job creation in the space sector.

Liberalizing Drone Regulations for a Thriving UAV Industry

Similar to space, civilian drones (unmanned aerial vehicles (UAVs)) were tightly restricted in India until a few years ago. Initial regulations in 2018 allowed limited use of drones, but with several requirements, including dozens of licenses and permissions, along with a complete prohibition of key applications like delivery of consumer products through drones or testing Beyond Visual Line of Sight (BVLS) flights. These rules were the major reason for stifling innovation in India's nascent drone industry.[63]

However, in August 2021, recognizing the potential of drones in sectors from agriculture to healthcare, the government pivoted to a more liberal approach. It rolled out the Drone Rules 2021, a comparatively simplified regulatory framework replacing the earlier regime. The number of forms and clearances was significantly reduced from 25 to 5 or 6, and many requirements were eliminated, such as the need for a pilot license or equipment certification for small drones used in R&D and security clearances before registration. The new rules also expanded operational allowances (permitting heavier drones up to 500 kilograms (kg), opening air corridors, etc.), making it far easier for businesses to develop and use drones.

The liberalized rules immediately infused innovation into India's drone ecosystem. Within days of the August 2021 policy change, investors who had been hesitant to fund drone startups rushed in, with multiple Indian drone companies announcing new funding rounds weeks after the rule change. Industry leaders also reported that many deals that had been stuck in limbo due to regulatory uncertainty closed without any further delays in lieu of the reforms, signaling a supportive environment. Today, India's drone sector consists of around 150 to 200 startups working on everything from delivery drones to agricultural spraying and aerial mapping. Use cases that were previously prohibited have taken off, for instance, experimental projects like "Medicine from the Sky" in Telangana have successfully used drones to deliver vaccines to remote villages, with regulatory waivers supporting trials in BVLS flights.[64]

Additionally, analysts project India's drone market will grow at over 14 percent annually, reaching around $1.8 billion by 2026, a trajectory that in large part was accelerated by the 2021 deregulation of the sector.[65]

The dismantling of red tape and adopting a much lighter regulatory approach in the drone sector allowed India to unlock a wave of innovation in unmanned aviation. This attracted fresh capital and enabled new services, with something as unique as e-commerce deliveries through drones to smart farming, improving efficiency and access in the economy.

While it's essential to appreciate the developments made in the drone industry in India, there is, however, a big stymie that still plagues the sector, notably the current regulations restrict all remotely piloted aircraft operations, regardless of their weight category, to remain within the Visual Line of Sight (VLOS). This mandate requires remote pilots or observers to keep direct visual contact with the drone, severely limiting its operational range compared to BVLOS. Enabling the same would allow large-scale innovation, particularly geared towards e-commerce.

TS-iPASS: Streamlining State Approvals to Spur Industrial Growth

The above examples reflect some of the changes at the national level; however, even state-level rules and bureaucracy have for a long time stymied businesses in India. A clear example was the complex and tiring process of obtaining permits to set up a new factory or enterprise, often requiring dozens of separate clearances from different departments in the state of Telangana.

In 2015, the state government tackled this challenge by enacting a groundbreaking single window clearance law known as TS-iPASS (Telangana State Industrial Project Approval and Self-Certification System). Under TS-iPASS, an investor submits a self-certified single application for a new industrial project, and the state guarantees all necessary approvals within 15 days for large projects (30 days for others). If the government fails to respond in the stipulated timeframe, the clearance is deemed granted by default. This represented a significant step in deregulating the approval process, resulting in a shift from open-ended bureaucracy to a time-specific and transparent process with legal accountability. The reform also introduced self-certification, which created an enabling environment, highlighting that that government trusts businesses to comply in good faith, with inspections occurring post approval. This resulted in a drastic reduction in the initial compliance burden on entrepreneurs.[66]

TS-iPASS has been widely hailed as a catalyst for investment in Telangana. The removal of uncertainty and months-long delays significantly improved the ease of doing business. In the seven

years from its launch in 2015 up to 2022, the state approved over 19,000 industrial projects via TS-iPASS, facilitating Rs. 2.32 lakh crore (about $25.5 billion) of new investments with the potential to create about 1.65 million jobs. These projects span sectors such as pharmaceuticals, food processing, textiles, and electronics, including many MSMEs that have benefited from the streamlined process.[67]

Even during the COVID-19 pandemic, Telangana continued to attract record investments, a key reason for this, according to officials, was investor confidence and an efficient approval process. By 2022, about 15,600 of the approved projects had already commenced operations, translating the paper approvals into real factories and businesses on the ground. The success of TS-iPASS has made Telangana one of India's top-ranked states for ease of doing business, and it set an example subsequently emulated by other states.[68]

However, it is essential to note here that the momentum that the state of Telangana had gained till 2022 after the reforms were enacted has lessened, and the state over the past two to three years has fallen in the ease of doing business rankings.[69]

Nevertheless, the Telangana government's initiative still stands as a demonstrable example of how deregulation at the state level through the process of cutting red tape and guaranteeing timely responses can markedly boost entrepreneurship and industrial growth, especially in manufacturing and other employment-intensive sectors.

These three cases illustrate how deregulation in India has directly enabled innovation and expanded economic activity. National-level reforms, such as opening the space and drone sectors, removed monopoly controls and outdated restrictions, unleashing a surge of startups, technological breakthroughs, and investments in high-tech domains. State-level reforms such as Telangana's TS-iPASS attacked procedural bottlenecks, showing that more innovative governance can stimulate entrepreneurship and attract capital at scale. In each instance, easing or eliminating regulatory constraints created a more competitive environment where new entrants and ideas could thrive.

While challenges remain and not every deregulation yields instant success, India's experiences in the past decade highlight a clear lesson: strategic deregulation, coupled with prudent oversight, can be a powerful driver of innovation and growth.

INDONESIA

Paramadina Public Policy Institute, By Ahmad Khoirul Umam

Deregulation as a Structural Imperative for Indonesia's Economic Development

This article examines deregulation as a structural imperative for Indonesia's economic development in the face of global trade disruptions and persistent domestic inefficiencies. It situates deregulation within the broader context of the high-cost economy, premature deindustrialization, and growing global protectionism. Drawing on three case studies, the deployment of government technology (GovTech) as a driver of digital governance, the deregulation of fertilizer distribution as an instrument of food security, and the Omnibus Law on Job Creation as a sweeping attempt to harmonize regulations, this contribution demonstrates how deregulation functions simultaneously

as a survival strategy, a tool of economic justice, and a stimulus for growth. It argues that deregulation is not synonymous with neoliberal retrenchment but rather a mechanism to empower small and medium enterprises, reduce rent-seeking, and restore investor confidence, while maintaining the state's responsibility to protect basic entitlements. Ultimately, deregulation is positioned as a foundational reform necessary for Indonesia to achieve resilience, inclusivity, and competitiveness in an increasingly fragmented global economy.

Introduction

The return of tariff-based trade policies under President Donald Trump's second administration reflects a significant shift in the global trading environment. In 2024, the United States recorded a trade deficit of $1.2 trillion, including $295 billion with China and $17 billion with Indonesia. To address this imbalance, Washington introduced reciprocal tariffs, citing long-standing concerns about trade barriers in partner countries. In Indonesia's case, these included licensing systems, quota regimes, halal certification, and certain rules in the financial sector, all noted in the United States's Trade Representative Office's "Foreign Trade Barriers" report of February 2025 (USTR, 2025).

For Indonesia, these developments serve as a reminder of the country's ongoing regulatory challenges. Complex procedures, overlapping ministries, and inconsistent taxation frameworks have long added to production costs and weakened competitiveness (Resosudarmo & Kuncoro, 2006). While resource-based industries can often pass such inefficiencies on to global consumers because of Indonesia's role as a price-setter, the manufacturing sector, where Indonesia functions as a price-taker, faces greater pressure. Competing at world prices, manufacturers have limited ability to absorb additional costs, leading to thinner margins, reduced investment, and risks of premature deindustrialization.

This environment underscores deregulation as a necessary response. Streamlining business processes, reducing rent-seeking, and harmonizing rules can enhance competitiveness and provide Indonesia with stronger credibility in international trade negotiations. Reforms not only help exporters withstand external pressures but also reinforce Indonesia's ability to attract investment and maintain growth amidst a more protectionist global order. Beyond global dynamics, deregulation plays a vital role domestically. It acts as a non-fiscal stimulus, easing the *ekonomi biaya tinggi* (high-cost economy) without increasing fiscal spending. Simplifying regulations lowers production costs, encourages investment, and helps create jobs, particularly in labor-intensive industries (Rodick, 2016).

At the same time, deregulation advances economic justice. As highlighted by economists (Basri, 2025; Prasetyantoko, 2025), complicated regulations often benefit larger firms capable of navigating bureaucracy, while SMEs are left disadvantaged. Many SMEs opt to operate informally to avoid bureaucratic burdens, but this limits their access to credit, formal markets, and legal protections. Deregulation reduces these barriers, levels the playing field, and allows SMEs to participate more fully in the economy.

This makes deregulation not simply a technical exercise, but a tool for both growth and fairness. Far from representing a retreat of the state, it reflects a balance envisioned by economists such as Sjahrir and Amartya Sen (1999) that the state must secure basic entitlements such as education, health, and social protection, while ensuring that regulations encourage productive activity. In this

sense, deregulation is about enabling markets to function efficiently, while the state continues to fulfil its responsibility to safeguard equity and inclusion.

Against this backdrop, deregulation emerges as more than a policy choice. It represents a structural imperative. By reducing unnecessary regulatory burdens, enhancing efficiency, and restoring predictability, deregulation equips Indonesia to withstand external shocks while strengthening its internal foundations for long-term growth. This article explores the significance of deregulation through three emblematic cases. First, the integration of GovTech as an instrument of accountable digital governance. Second, the deregulation of fertilizer subsidies as a response to inefficiencies in agricultural governance. Third, the Omnibus Law on Job Creation as a sweeping legal reform to harmonize and consolidate Indonesia's regulatory framework. Together, these case studies illuminate both the promise and the perils of deregulation in Indonesia's developmental trajectory.

GovTech and the Digitalization of Deregulation

One of the most distinctive features of Indonesia's current reform agenda is the adoption of GovTech as a central pillar of deregulation. According to the Chairman of Indonesia's National Economic Agency, Luhut Binsar Panjaitan (2025), GovTech is more than administrative digitization, it represents a systemic transformation of governance aimed at reducing discretion, automating compliance, and minimizing opportunities for rent-seeking.

The coal sector offers a compelling example. Through the integration of digital monitoring systems, the government successfully blocked companies that failed to pay royalties from exporting—a reform that ensured compliance without costly bureaucratic interventions. Similar initiatives are underway in taxation, where GovTech tools aim to capture SME revenues, broaden the tax base, and reduce evasion. In subsidy distribution, electronic registries supported by AI are being deployed to refine eligibility criteria, reduce leakages, and guarantee that benefits reach intended recipients. By embedding technology into regulatory processes, GovTech enhances credibility and resilience. Automated systems reduce the scope for the "black market of power and justice," a phrase used to describe the rent-seeking practices that thrive on bureaucratic discretion. Transparent and predictable systems boost investor confidence, while precision targeting improves social welfare delivery.

Nevertheless, GovTech is not a panacea. Its success depends on political will, institutional integrity, and the consistent application of rules. As Luhut Binsar Pandjaitan has emphasized, technology must be accompanied by honest governance and freedom from conflicts of interest. Without these safeguards, GovTech risks becoming an additional layer of complexity rather than a genuine solution. If effectively implemented, GovTech-enabled deregulation has the potential to mark a decisive break from Indonesia's entrenched bureaucratic inefficiencies, ushering in a governance system defined by efficiency, accountability, and trust.

Deregulation of Fertilizer Subsidies for Food Security

The deregulation of fertilizer subsidies provides another instructive case of reform in practice. For decades, fertilizer subsidies were central to Indonesia's agricultural policy, intended to bolster smallholder farmers and secure food self-sufficiency. Yet the program was plagued by inefficiencies: overlapping regulations, involvement of multiple ministries, and protracted approval chains that often-left farmers without inputs during critical planting seasons.

In late 2024, the government introduced sweeping reforms to address these problems. First, authority for planning and distribution was centralized in the Ministry of Agriculture, eliminating the need for decrees from regents, mayors, or governors. Second, farmer needs were registered electronically via the *Rencana Definitif Kebutuhan Kelompok* (e-RDKK) system, streamlining submissions and reducing bureaucratic bottlenecks. Third, 145 fragmented regulations were consolidated into a single presidential decree, reducing regulatory fragmentation and curtailing rent-seeking opportunities.

These reforms were integrated into a broader food security agenda. In 2025, imports of rice, sugar, maize, and salt were halted, while the official purchase price for rice was raised from IDR 6,000 ($0.37) to IDR 7,000 ($0.43) per kilogram to incentivize domestic production. By October 2024, over 7 million farmers had been registered, and for the first time, subsidized fertilizers were available as early as January 2025, coinciding with the first planting season.

While farmer associations welcomed the changes, they also warned of risks. Centralization of authority in Jakarta could overlook local variations in needs, while weak monitoring mechanisms left space for misuse. Calls were made for strengthening the Fertilizer and Pesticide Supervisory Commission (KP3) and for including both farmers and law enforcement in oversight processes. Despite these challenges, the case demonstrates how deregulation, when paired with digital systems and political commitment, can improve efficiency, enhance transparency, and deliver tangible benefits to citizens. It highlights deregulation not as an abstract principle but as a practical intervention with direct implications for food security and rural livelihoods.

The Omnibus Law on Job Creation

The passage of the Omnibus Law on Job Creation (UU No. 11/2020) represented the most ambitious attempt at deregulation in Indonesia's recent history. Confronted with a fragmented and contradictory regulatory framework scattered across thousands of statutes and ministerial decrees, the government sought to consolidate and simplify regulations governing labor, investment, land, environment, and taxation.

At the heart of the reform was the introduction of the Online Single Submission (OSS) system, which adopted a risk-based approach to licensing. Low-risk businesses could begin operations with minimal requirements, while high-risk activities remained subject to stricter oversight. This system aimed to ease the regulatory burden on SMEs, which form the majority of Indonesia's businesses, and to attract both domestic and foreign investment.

The immediate impact was noticeable. New investment commitments flowed into manufacturing, infrastructure, and renewable energy, and the reform was hailed as a landmark step toward improving Indonesia's competitiveness. For the government, the law was indispensable to meeting ambitious job creation targets for its youthful workforce.

Yet the law also triggered some of the most intense protests in post-Reformasi Indonesia. Labor unions argued that the law weakened worker protections by loosening rules on outsourcing, reducing severance pay, and expanding contract-based employment. Environmental groups criticized the relaxation of environmental impact assessments and the centralization of licensing, warning of increased risks to sustainability. Critics also questioned the opaque and accelerated legislative process, which limited opportunities for meaningful public consultation.

Therefore, the Omnibus Law illustrates both the promise and perils of deregulation. It underscores the necessity of simplifying Indonesia's regulatory framework but also exposes the risks of undermining labor rights and environmental safeguards in the pursuit of efficiency. The controversy reveals the inherent tension in Indonesia's developmental trajectory: the struggle to modernize its economy while upholding the principles of social justice and sustainability in a democratic polity.

Conclusion

Deregulation must be understood not as a discretionary option but as a structural imperative for Indonesia's economic development. Confronted with tariff wars and the persistence of a high-cost economy, Indonesia cannot rely solely on defensive measures. Instead, it must strengthen its domestic foundations by cutting inefficiencies, restoring competitiveness, and building investor confidence.

The three case studies explored reveal the multifaceted role of deregulation. GovTech highlights the potential of digital technologies to enhance accountability and transparency. Fertilizer subsidy reform demonstrates the concrete benefits of simplifying governance for food security and rural livelihoods. The Omnibus Law underscores both the opportunities and risks of sweeping deregulation in a democratic setting.

Historical precedent reinforces this conclusion. The deregulatory reforms of the late 1980s, spearheaded by technocrats such as Widjojo Nitisastro, Ali Wardhana, Sumitro Djojohadikusumo, and Sjahrir, propelled Indonesia into a period of rapid export growth and industrialization (Resosudarmo & Kuncoro, 2006). Today, Indonesia faces analogous challenges, and similar boldness is required, albeit adapted to the demands of a digital age and a more contested global economy.

In this light, deregulation should not be caricatured as neoliberal withdrawal. Properly designed and implemented, it represents a strategy of empowerment: dismantling rents, democratizing opportunities, and aligning governance with both efficiency and justice. By embedding technology, strengthening oversight, and ensuring inclusivity, Indonesia can transform deregulation into a foundation for resilient, inclusive, and globally competitive development.

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ITALY

I-Com and Competere, By Stefano da Empoli and Pietro Paganini

Using Simplification to Accelerate Digital Infrastructure Deployment

Over the past seven years, the Italian Government and Parliament have introduced a series of regulatory simplifications aimed at accelerating the deployment of ultra-broadband networks and digital infrastructure. These measures are designed to streamline procedures and reduce the regulatory burden on operators.

Legislative Decree No. 135/2018 (converted into Law No. 12/2019) introduced key simplification tools under Article 8-bis, including provisions for using existing physical infrastructure and adopting low-environmental-impact excavation technologies, such as mini-trenching, in the presence of underground utilities.

Further simplification came with Decree-Laws No. 76/2020 and No. 77/2021 (converted into Law No. 120/2020 and Law No. 108/2021, respectively). These so-called "Simplification Decrees" introduced procedural innovations aimed at speeding up authorizations and easing requirements for building both fixed and mobile networks.

Additional regulatory improvements followed, including:

- Implementation of the European Electronic Communications Code (Legislative Decree No. 207/2021).
- Annual competition laws for 2022 and 2023.
- Legislative Decree No. 13/2023 (converted into Law No. 41/2023), which contains urgent measures to implement the National Recovery and Resilience Plan (NRRP), its complementary investment plan, and cohesion and agricultural policies.

- Law No. 214/2023, which increased permissible electromagnetic field exposure limits.
- Legislative Decree No. 48/2024, which further refined the provisions of the European Code.
- These measures emphasize the use of important simplification tools, such as:
  - The services conference including all multi-level government departments and agencies involved, with clearly defined timelines and composition.
  - The digitalization of authorization procedures, which streamlines approvals and reduces administrative burdens for operators.

In the context of digital infrastructure, data centers play a key role. Italy currently hosts 181 data centers, ranking 11th globally (Cloudscene, 2025). While regional disparities persist, these are expected to ease following the adoption of a national framework law currently under debate. Italy has demonstrated strong efforts in attracting investment, with expected capital inflows increasing from €5 billion ($5.84 billion) in 2023–2024 to €10 billion ($11.69 billion) in 2025–2026.

Under Article 13 of Law No. 136/2023, the Council of Ministers may designate major investment programs (valued at €1 billion ($1.17 billion) or more) as being of national strategic interest, enabling a fast-track authorization process that consolidates various administrative approvals into a single permit.

In November 2024, the Council of Ministers applied this designation to a €1.2 billion ($1.4 billion) investment by Amazon Web Services (AWS) to build and expand cloud infrastructure in Italy.

On July 16, 2025, a public consultation was launched on a national strategy to attract foreign investment in data centers, with the aim of creating a competitive and robust digital ecosystem.

Providing Long-term Market-based Incentives for Energy Storage

Energy storage systems are critical to the modern power grid. They address the temporal mismatch between energy generation and consumption, particularly as more intermittent renewable sources are integrated. These systems offer vital services such as grid stabilization, frequency regulation, voltage control, and backup power during outages. Economically, they enable peak shaving and load shifting, thereby improving dispatch efficiency and lowering operational costs. From lithium-ion batteries to pumped hydro, various technologies provide scalable and essential solutions for a clean energy transition.

Storage systems also participate in competitive energy markets by:

- Performing energy arbitrage
- Providing ancillary services

These activities make them essential flexibility resources, especially as the share of variable renewables (such as solar PV) increases.

However, the sector faces hurdles including:

- Market price volatility
- Long-term regulatory uncertainty

- High capital investment needs

These barriers can dissuade investors and delay the deployment of needed infrastructure.

To address this, Italy introduced the MACSE mechanism (*Meccanismo di approvvigionamento di capacità di stoccaggio elettrico*), a first-of-its-kind framework for long-term storage capacity procurement:

- Introduced by Legislative Decree No. 210/2021
- Approved by the regulatory authority ARERA (Resolution 247/2023)
- Finalized by Ministerial Decree No. 346 of 10 October 2024
- Cleared by the European Commission in December 2023

How MACSE works:

- New storage projects can bid in competitive auctions organized by Terna (the Italian TSO)
- Winners receive a premium remuneration in €/MWh-year
- A price cap is set by ARERA, but actual awarded prices should hopefully be lower due to market competition
- In return, participants must:
  - Offer time-shifting products to the market
  - Participate in the Ancillary Services Market
- Eligible technologies: lithium-ion batteries and pumped hydro
- Up to 10 percent of awarded capacity may go to other storage technologies that meet reference criteria

MACSE is the first global mechanism offering long-term price signals to stimulate investment in energy storage. Notably, all capacity contracted through MACSE will be located in Southern Italy, potentially creating significant regional economic opportunities.

The first auction, with a delivery target of 2028, is scheduled for September 30, 2025, and Terna expects demand to reach 10 GWh.

Simplified Procedures for the Use of Health Data for Research

Health data is a cornerstone of the digital transformation in healthcare. Beyond clinical use, such data constitutes a strategic infrastructure asset, enabling personalized medicine, efficient services, and evidence-based public health policy. Key instruments such as the Electronic Health Record (Fascicolo Sanitario Elettronico, FSE) and the broader National Health Data Ecosystem align with the EU's European Health Data Space (EHDS) initiative.

To fully realize this potential, facilitating the secondary use of health data (i.e., for research, innovation, healthcare planning, and regulatory purposes) is essential. Secondary use transforms clinical data into a valuable resource for:

- Developing new therapies

- Understanding diseases
- Optimizing care delivery
- Forecasting future healthcare needs

However, using sensitive medical data raises privacy concerns. Historically, in Italy, secondary use without explicit consent required prior approval by the Italian Data Protection Authority (DPA)—a step that often delayed research initiatives.

A major breakthrough came with Law No. 24/2024 (part of the NRRP-related reforms), which amended the Privacy Code to eliminate the need for prior DPA authorization when "it is impossible or disproportionate to inform data subjects and obtain their consent."

This change has been widely welcomed by the scientific community for simplifying procedures and accelerating the launch of research projects.

Safeguards remain in place, including:

- Obtaining a favorable opinion from a competent Ethics Committee
- Adopting protective measures as defined by the DPA
- Publishing a Data Protection Impact Assessment in accordance with the GDPR

To clarify the new framework, the DPA has issued FAQs detailing legal requirements and obligations for institutions such as IRCCS (Scientific Hospitalization and Treatment Institutes).

Overall, this reform marks a significant step toward a more agile and innovation-friendly regulatory environment, enabling the responsible use of health data while upholding core privacy protections.

PAKISTAN

Islamabad Policy Research Institute (IPRI), By Sheraz Ahmad Choudhary & Javairyah Aatif

Innovation through deregulation in Pakistan is best understood through the analytical triad of Schumpeterian creative destruction, regulatory governance theory, and Rogers' diffusion of innovation model. At the macro-institutional level, Pakistan's trajectory reflects Schumpeter's insight that genuine innovation does not arise through incremental reform, rather it calls for destabilization and dismantling of existing systems. The liberalization of the telecom sector in the early 2000s, followed by the fintech revolution catalyzed by electronic money institutions (EMI) regulations and digital bank licensing, exemplify this dynamic. These were necessary structural ruptures that displaced stagnant monopolies and enabled a new generation of private actors to reconfigure the technological and economic landscape. Fintech startups like SadaPay and infrastructure innovations like Raast did not emerge within existing institutional logics but as disruptive entrants that challenged and in some cases bypassed traditional incumbents. Pakistan's innovation story, therefore, is one of destructive renewal, wherein entrepreneurial energy has surged precisely because state control has been strategically rolled back, keeping in mind that the state understood where it had to step back.

Disruption alone was not enough, and so the evolution of regulatory frameworks in Pakistan—such as the State Bank of Pakistan's (SBP's) sandbox model and the Pakistan Special Technology Zone Authority's (STZA) tax-exempt technology zones—demanded engagement with regulatory governance theory, particularly its adaptive and risk-based variants. These initiatives mark a significant (though nascent) shift in the state's posture: from a gatekeeping authority to an enabler of innovation ecosystems. Pakistan, long associated with bureaucratic inertia, is tentatively experimenting with models of facilitative oversight, aligning regulation with innovation cycles. However, institutional fragmentation and overlapping mandates (SBP, SECP, PTA) illustrate the fragility of this shift. Meanwhile, at the societal level, Rogers' diffusion of innovation model becomes indispensable in diagnosing Pakistan's fractured adoption curve. Digital financial tools, agri-tech platforms, and precision agriculture systems exhibit rapid uptake among urban elites and early adopters but struggle to penetrate rural and gendered peripheries due to infrastructural and cultural frictions. Together, these frameworks provide a layered reading of Pakistan's deregulation experiment: Schumpeter captures the structural rupture, regulatory governance theory reveals the contested reordering of state-market relations, and diffusion theory illuminates the asymmetries of access and adoption. The result is a political economy of innovation that is generative, uneven, and profoundly contingent, but growing everyday.

Introduction

Historically, Pakistan's economy has struggled due to overregulation in key sectors, with firm state control limiting private initiative and technological adoption. In recent years there has been a notable shift from a control-based governance model to enabling policies that foster innovation and digital growth. The government's "Digital Pakistan" vision and the formulation of new frameworks, such as draft data protection and a national AI policy, indicate a commitment to creating a more innovation-friendly environment. These efforts recognize that excessive regulation and bureaucratic hurdles can stifle creativity and investment. Deregulation, in the sense of simplifying rules, opening markets to competition, and offering supportive policies, is increasingly viewed as progress. This shift is particularly vibrant in sectors such as fintech, telecommunications, technology zones, and agriculture, where liberalization and supportive regulation are unleashing new waves of entrepreneurship and technological development. This submission will consider four sectors—fintech, telecommunications, special technology zones, and agriculture—from the lens of a multivectored framework encompassing concepts from Schumpeter's theory, diffusion innovation models, and the regulatory governance theory.

Fintech Sector: Regulatory Reforms and Innovation

Pakistan's fintech sector provides a prime example of how deregulation and smart regulation can drive innovation. Until a few years ago, fintech innovation was controlled by a lack of suitable regulatory frameworks and low financial inclusion. Regulators introduced a series of progressive reforms to expand the financial services space:

- **Electronic Money Institution (EMI) Regulations:** In April 2019, the State Bank of Pakistan (SBP) issued regulations for EMIs, allowing non-bank entities to issue e-money wallets and payment instruments. This was a revolutionary step that created Pakistan's first regulatory path for fintech startups to offer digital wallets and payment services. By enabling open-loop mobile wallets, the EMI framework paved the way for the rise of fintech companies offering stored-

value accounts. Four EMIs were operational by 2023 with 1.6 million wallets issued and others in the pipeline, dramatically expanding digital financial access.

- **SBP's Regulatory Sandbox (2020):** In 2020, SBP launched a regulatory sandbox to let fintech innovators test new products in a controlled environment. This sandbox approach represents a part of SBP's Vision 2028 which allows startups to experiment with innovative solutions under regulatory oversight without full licensing burdens. The sandbox has encouraged experimentation and helped regulators update frameworks in line with emerging technologies. This cohort-based sandbox will enhance and upgrade the regulatory environment while developing the fintech ecosystem.
- **Digital Bank Licensing Framework:** Another milestone was SBP's introduction of a licensing framework for digital banks in 2022. For the first time, purely digital banks offering services from payments to lending via apps became possible. SBP announced it would issue up to five digital bank licenses, attracting interest from around 20 applicants, including domestic banks, microfinance institutions, EMIs, and foreign fintech players. SBP granted five digital bank licenses in January 2023 with the expectation that these digital banks will expand financial inclusion and spur competition in banking. This regulatory move effectively created a new class of financial institutions, encouraging both startups and banks to revolutionize the digital ecosystem in Pakistan.

These reforms minimize entry barriers and give opportunity to entrepreneurs and investors as fintech innovation is the way forward. The impact of this fintech innovation has been positive. Fintech startups now lead Pakistan's startup ecosystem in growth and investment**.** In 2021, Pakistani startups raised a record of $1 billion in funding since 2015. Global investors, attracted by the large unbanked population and new regulatory openness, have backed local fintechs; for example, in 2022, SadaPay raised $10.7 million and NayaPay $13 million in early-stage rounds after securing SBP approvals. The entry of such venture funding recognizes the accelerating product development and competition in financial services. In fintech, the EMI regulations and digital banking licenses created space for disruptive entrants such as SadaPay and NayaPay. These digital-first institutions are bypassing legacy banking bottlenecks and offering leaner, cheaper, and faster services, hallmarks of Schumpeter's creative destruction in the digital age.

Innovation outcomes in fintech are now clearly visible. Mobile app-based wallets and payment platforms have proliferated beyond the established telco-led services like Easypaisa and JazzCash, which themselves count tens of millions of users. New EMIs such as SadaPay, NayaPay, and fintechs like Finja are offering digital wallets, prepaid cards, and peer-to-peer transfers often with zero fees, bringing convenient financial services to young and previously excluded segments. The SBP's own Raast instant payment system, provides compatible, real-time bank transfers for free, and is a direct product of the pro-fintech policy push. Raast's rapid adoption processed an astonishing Pakistani rupees (Rs.) 1 trillion ($3.55 billion) in just 16 days in late 2024, whereas it initially took 336 days to reach that volume, which reflects how quickly Pakistanis are embracing digital payments when given the infrastructure. By October 2024, SBP reported that Raast had processed 892 million transactions (Rs. 20 trillion), contributing a major shift toward cashless payments. The rise of digital transactions is slowly chipping away at Pakistan's heavy reliance on cash, helping bring more money into formal channels. SBP noted that the growth of digital

accounts and services like Raast will "reduce the cash preference in the economy," a crucial cultural shift in an economy long dominated by cash.

Fintech innovation is spreading to lending, insurtech, and financial management. Digital lending platforms are increasing rapidly, and merchants are being boarded through fintech powered QR payments and wallets. Financial inclusion has improved: by 2023, 46 percent of adult Pakistanis had transaction accounts, up from around 16 percent in 2016, largely because of digital channels. Fintech is also generating jobs and drawing global attention to Pakistan's tech potential. It has involved strong public-private collaboration. Organizations like Karandaaz have worked with SBP and private banks on projects such as micro-payments gateways and financial literacy, ensuring that pro-innovation regulation translates into real inclusion on the ground. Pakistan's example shows that when regulators strike a balance protecting consumers and stability while giving innovators space, a fintech ecosystem can be a game-changer.

Telecommunications: Deregulation and Infrastructure Expansion

Joseph Schumpeter's theory of "creative destruction" is exemplified best with the deregulation of Pakistan's telecom sector in 2003. In the early 2000s, telecommunications were tightly controlled by the state-owned Pakistan Telecommunications Company Limited (PTCL), which held a monopoly over fixed lines and dominated mobile services through a subsidiary. High prices and poor service were common in that era of limited competition. Recognizing these issues, the government took bold action: in 2003, it announced a comprehensive Telecom Deregulation Policy to liberalize the sector. This policy ended PTCL's monopoly and opened the market to private and foreign operators. New licensing regimes were introduced for fixed-line services and for cellular mobile services, allowing multiple operators to enter and compete. By 2004, the telecom regulator had auctioned two new mobile licenses, which were won by Telenor (Norway) and Warid Telecom (Abu Dhabi, UAE), each paying $291 million for 15-year GSM spectrum rights. China Mobile acquired another operator (Paktel) to launch Zong, bringing a major Chinese investor into the market. This influx of foreign investment from Norway, the Gulf, and China injected capital, technology, and knowhow into Pakistan's existing telecom industry. Competition drove operators to expand coverage and lower prices, encouraging exponential subscriber growth. The results were dramatic: Pakistan went from around 5 million mobile subscribers in 2003 to 160 million by 2018, and over 200 million by 2025. Mobile tele-density jumped from just 2.6 percent in 2003 to over 80 percent today. The rapid expansion from 5 million mobile subscribers in 2003 to over 200 million in 2025 exemplifies how liberalization facilitated the "destruction" of obsolete infrastructure and enabled the creation of a vibrant telecom ecosystem.

Deregulation not only increased the quantity of connections but also improved service quality and innovation. With multiple private operators struggling for customers, there was strong motivation to upgrade technology. The government facilitated this by adopting transparent spectrum auctions for new technologies. For example, in 2014 Pakistan held its first auction of 3G/4G mobile spectrum, raising $1.1 billion and awarding licenses to four operators. This auction introduced modern mobile broadband to the country. By 2017, 4G LTE networks were rolling out, and today all major operators offer fast mobile Internet. As a result, Pakistan has over 150 million broadband users, most on mobile 3G/4G. Mobile broadband dispersion climbed from 21 percent in 2016 to nearly 61 percent by 2025. This connectivity boom has enabled a host of cross-sector innovations

from mobile banking and e-commerce to ride-hailing and e-learning platforms, all dependent on widespread Internet access.

The telecom deregulation of 2003–2004 unlocked an era of connectivity and innovation in Pakistan. The telecom sector's contribution to GDP and the tax base has grown substantially as subscriber numbers and data usage exploded. By mid-2025, mobile subscriptions surpassed 200 million, meaning access effectively exceeds 90 percent of the population and data usage is rising over 20 percent yearly. The sector has attracted over $10 billion in FDI over two decades and consistently ranks among Pakistan's top industries for foreign investment and tax revenues. Consumers have benefited from better services at lower prices; for example, today a voice minute or a gigabyte of data in Pakistan is among the cheapest in the region, enabling even low-income users to get online.

Special Technology Zones: Structured Innovation Ecosystems

To further institutionalize innovation-led growth, Pakistan has turned to the concept of Special Technology Zones (STZs). Learning from successful models globally, Pakistan established the Special Technology Zones Authority in 2021 with a mandate to create high-tech zones offering regulatory and fiscal incentives for tech businesses. This initiative essentially represents a deregulation within a zone. STZs provide businesses relief from many heavy taxes and rules, creating a sandbox-like ecosystem where innovation can flourish. The STZA Act 2021 created a legal framework for these zones, positioning the government not as a controller but as a facilitator and regulator of a private sector-driven tech ecosystem. Firms operating in approved zones enjoy a collection of incentives including 10-year tax holidays on income and profits, exemption from customs duties on imports of capital goods, and relaxed foreign exchange regulations. These unparalleled incentives have been explicitly designed to overcome previous shortcomings and to attract both local and foreign tech companies to invest in Pakistan's knowledge economy.

Since 2021, Pakistan has launched a number of flagship STZs through public-private collaboration. The Islamabad Technopolis—a 140-acre technology park in the capital—was the first zone inaugurated, planned as a hub for IT companies, high-tech manufacturing, R&D centers, and university facilities in a clustered environment. In Lahore, the provincial government partnered with STZA to establish the Lahore Technopolis, an 800-acre zone focusing on biotech, gaming, and IT, complete with tax incentives and its own governance structure. In Khyber Pakhtunkhwa, a Pakistan Digital City has been set up in Haripur, and the Pak-Austria Fachhochschule IAST was declared a tech zone to leverage its research output. Even historically less-developed regions are joining: in Azad Kashmir, 2,000 kanals have been allocated for the first tech zone in Mirpur. Plans are underway for zones in Sindh and Balochistan as well, ensuring a nationwide network of innovation clusters.

These zones operate on a hybrid model of governance, while STZA provides one-stop facilitation and ensures the regulatory exemptions, the infrastructure development is often in partnership with private developers or universities, and the companies are entirely private. This public-private approach means the zones are market-oriented but backed by government support where needed. STZA has signed MoUs with international partners, for example, MasterCard is working with STZA to build cashless zone solutions, and venture capital firms like Shorooq (UAE) are collaborating to set up VC funds targeting Pakistani startups in the zones. By mid-2025, the Ministry of IT reported

that 23 Special Technology Zones had been notified across the country, and together with other tech parks, they host over 18,000 professionals, including startups and freelancers. The existence of geographically concentrated tech ecosystems with tax breaks is already catalyzing new startup incubators, coworking spaces, and R&D initiatives. Companies operating in the Islamabad Technopolis have started partnerships with nearby universities for talent development, and multinational tech firms have shown interest in setting up offices in these zones to take advantage of the incentives.

The strategic impact expected from STZs is significant. Each 100-acre zone is projected to attract around $1 billion in investment and generate $1.6 billion in annual GDP when fully functional. The zones aim to boost tech exports, import substitution, and job creation. By clustering firms, they promote knowledge and innovation through close industry-academia collaboration. Pakistan's IT exports have been rising, and the government credits initiatives like STZs and skills development programs for part of this success. STZs are helping reverse the brain drain by providing local opportunities. Many Pakistani tech entrepreneurs abroad have shown interest in returning or investing in zone enterprises to leverage the incentives. In the long run, these zones are envisioned to become self-sustaining innovation ecosystems that will produce globally competitive tech products, from software and electronics to biotech solutions, driving a more diversified, knowledge-based economy. The STZ program is still in early stages, but it exemplifies deregulation in the sense of removing tax/regulatory burdens for a strategic sector and actively enabling innovation through policy design.

Agriculture: The Rise of Agri-Tech Through Enabling Policies

Agriculture remains the backbone of Pakistan's economy, contributing ~20 percent of GDP and employing about half the labor force, yet it has historically been affected by low productivity, heavy middlemen control, and outdated practices. Recognizing that over-regulation and antiquated market structures were holding back this sector, Pakistan has begun pushing agritech innovations and supportive policies to modernize farming. While agriculture had no single "deregulation event" similar to telecom, the government in recent years has focused on liberalizing agricultural markets and encouraging technology adoption as part of an Agricultural Transformation Plan. Efforts have been made to ease restrictions on agricultural trading and encourage digital platforms that connect farmers directly to markets. Provincial governments have worked on reforming outdated market laws to allow farmers to sell produce outside traditional mandis, enabling farm-to-market supply chains powered by tech startups. At the same time, policymakers are promoting precision agriculture by subsidizing smart farming tools and opening data for private innovation. The Prime Minister in 2025 explicitly called for a "comprehensive regulatory framework to support innovation and transparency" in agriculture, emphasizing modern tech as a priority to drive growth and climate resilience in the sector. These policy shifts have led to a growing agritech startup scene in Pakistan, which is releasing innovation on the farm and beyond.

- **Tazah Technologies:** Founded in 2021, Tazah is a Lahore-based B2B agriculture marketplace that connects farmers and small produce sellers with bulk buyers through a digital platform. Tazah tackles the traditional fragmented supply chain by aggregating demand and supply, even providing quality grading services for produce. The existence of supportive EMI regulations and e-commerce frameworks allowed Tazah to incorporate fintech elements easily. Within months of launch, Tazah raised a $2 million pre-seed funding round led by international investors to

scale its platform. By cutting out layers of middlemen and reducing waste (30 to 40 percent of produce traditionally spoiled due to inefficient handling), tech platforms like Tazah are increasing farmers' incomes while lowering prices for buyers. Such ventures have been aided by the government's general encouragement of e-commerce and digital payments in agriculture, and by the availability of low-cost mobile internet in farming areas.

- **PakAgriMarket:** Launched as a hobby project in 2018 and now a comprehensive online marketplace, PakAgriMarket constitutes a multi-vendor platform that brings the entire agriculture value chain online. It allows farmers to buy inputs (seeds, fertilizers, tools) directly from manufacturers or dealers, and also to sell their crops directly to institutional buyers or exporters. This addresses the long-standing "broken connections" in the agri value chain, where farmers had little price visibility and were at the mercy of local arthis (agents) for both input supplies and crop sales. By digitizing market linkages, PakAgriMarket improves price discovery and puts farmers in a better bargaining position. The platform initially faced challenges, but with time and some policy support adoption has grown. The government's implicit support for these platforms by engaging with them in accelerators and including them in conversations about agricultural reforms indicates a shift toward an enable-and-partner approach, rather than trying to control agricultural trade as in the past.
- **Farmdar:** This Islamabad-based startup, founded in 2021, represents high-tech innovation in farming. Farmdar uses AI and multi-spectral satellite imagery to provide actionable crop data to farmers such as detecting crop stress, estimating yields, and optimizing input use. Recognizing the value of such precision agriculture, Pakistan's regulators did not stand in the way of commercial drone imagery or private satellite data services. Partnerships with institutions like the Pakistan Space Agency and support from programs like the National Incubation Center helped Farmdar flourish. In 2022, Farmdar raised $1.3 million in seed funding led by local and foreign venture funds to expand its services. The startup offers a web app where farmers can register and get free basic insights about their fields, while larger agribusiness clients pay for detailed analyses. By mid-2022, Farmdar had already covered hundreds of thousands of acres, helping to increase yields and reduce input waste on crops such as wheat and sugarcane. Pakistan's huge yield gap, for example, being among top 10 producers globally for wheat, rice, sugarcane, but ranking below 50th in yield per acre presents a massive opportunity for such innovation. The government's openness to solutions such as Farmdar shows a regulatory climate that encourages using science and data to improve farming outcomes.

Innovation in agriculture is being opened by a combination of deregulation and proactive support. Early achievements include improved market efficiency, higher productivity through precision agri-tech, and the emergence of agribusiness entrepreneurship as a viable career for young Pakistanis. At the same time, these changes are contributing to important national goals. Increased food security, climate-smart agriculture, and greater rural inclusion in the digital economy. Pakistan's agritech rise illustrates that even in traditional sectors like farming, a shift in regulatory approach from command-and-control to facilitate-and-innovate can unlock substantial value.

Challenges

While deregulation has unleashed significant innovation across Pakistan's fintech, telecom, agriculture, and tech sectors, the process remains uneven and fraught with systemic constraints.

The following challenges illuminate the structural, regulatory, and institutional frictions impeding sustained and inclusive transformation.

- **Fintech regulatory overlap and inclusion gap:** Despite progressive frameworks (EMI, sandbox, and digital banks), fintech startups face conflicting mandates from SBP, the Securities and Exchange Commission of Pakistan (SECP), etc. Rural women remain largely excluded, and unregulated loan apps may trigger exploitation, prompting SBP crackdowns. Data protection remains absent despite increasing digital footprints and a data security policy.
- **Volatile funding ecosystem:** Pakistan's fintech growth has been fueled by foreign venture capital (e.g., SadaPay, NayaPay), but this dependence introduces systemic risk (as seen after the 2023 global tech slowdown, potentially derailing startup momentum without local capital buffers)
- **Telecom taxation and policy inertia**: Although deregulation catalyzed expansion, Pakistan's telecom sector suffers from one of the region's highest taxes on voice and data, disincentivizing use among lower-income groups. Spectrum auctions for 5G remain delayed, and investors are wary due to unstable policy signals. The GSMA reports that Pakistan's mobile operators pay one of the highest combined tax burdens globally, approximately 33 to 42 percent of their revenue. This includes a 15 percent withholding (Advance Income Tax) and around 19.5 percent sales tax on mobile services, disproportionately impacting low-income users and dampening incentives for network expansion.
- **State contradictions in digital governance**: The government simultaneously promotes broadband expansion while imposing periodic Internet shutdowns that have undermined user trust and disrupted fintech, e-commerce, and gig platforms.
- **Uneven connectivity infrastructure**: Urban areas enjoy dense mobile broadband access, but vast rural zones in Balochistan, ex-FATA (Federally Administrated Tribal Areas), and the Northern Areas remain underserved, limiting the reach of digital inclusion policies and digital public goods like Raast.
- **STZ elite capture and coordination failure**: Special Technology Zones (e.g., Islamabad Technopolis, Lahore Technopolis) risk becoming dominated by well-capitalized firms, crowding out SMEs. If these zones are dominated by well-capitalized or politically connected entities, SMEs lose out on opportunities for subsidized infrastructure, tax breaks, and institutional support, advantages that could otherwise help them scale, innovate, and create jobs. Without inclusive access, the zones risk reinforcing existing inequalities rather than serving as engines of broad-based innovation.
- **Legal and intellectual property (IP) enforcement gaps**: Weak IP regimes and the absence of legal interoperability with global tech hubs hamper the global scalability of Pakistan's tech startups, even those housed in STZs or backed by VCs.
- **Talent and skills mismatch**: Despite the presence of initiatives like PIAIC, Pakistan's workforce continues to exhibit a critical gap between academic training and industry requirements in areas such as AI, cybersecurity, cloud computing, and advanced software development. Companies frequently report that university graduates are not prepared for professional roles, especially in specialized domains critical to STZ success.

- **Agritech access and trust barriers**: Although platforms like Tazah and Farmdar enable access to agricultural inputs and digital services, most smallholder farmers remain excluded due to low smartphone penetration, limited digital literacy, and reliance on entrenched market intermediaries. Adoption of precision tools remains concentrated among larger farmers, and scaling to rural smallholders is significantly hindered by structural and informational barriers.
- **Institutional incoherence and political discontinuity**: Fragmented authority across regulators (SBP, SECP, STZA, MoITT (Ministry of Information Technology and Telecommunications), etc.) leads to delays and investor fatigue. Initiatives such as Digital Pakistan falter with political and economic instability, while many donor-backed innovation programs lack long-term sustainability due to weak local institutional ownership.

Policy Recommendations

1. Consolidate the overlapping mandates of SBP, SECP, PTA, and STZA under a unified digital regulatory authority to streamline licensing, ensure policy coherence, and provide a one-window interface for startups.
2. Expand Raast and digital wallet usage via localized digital literacy campaigns, especially targeting women and rural populations, through public-private partnerships with telecoms and civil society actors.
3. Develop a public-private innovation fund to support fintech and agritech startups during capital droughts, enabling risk-sharing and promoting inclusion in undercapitalized regions.
4. Implement a predictable telecom tax regime and publish spectrum roadmaps to restore investor confidence and lower barriers to connectivity for underserved communities.
5. Ensure the Data Protection Bill and strengthen IP enforcement to foster trust, support digital exports, and ensure legal interoperability with global markets.
6. Establish a Digital Skills Corps to bridge talent gaps in AI, cybersecurity, and robotics, linking STZs with academic institutions via boot camps, internships, and zone-tied scholarship programs.
7. Require regular, independent impact assessments of key initiatives like EMI licensing and STZ tax exemptions. Embedded feedback loops will enable adaptive governance, transparency, and evidence-based recalibration.

Conclusion

As Pakistan embraces cutting-edge fields such as fintech, AI, and digital health, its regulatory institutions must develop new expertise and adaptable governance frameworks. Current capacity gaps hinder the effective oversight of these rapidly evolving sectors. Addressing these limitations through international collaborations, structured training, and global best practices is imperative to ensure both innovation and risk management.

However, regulatory sophistication alone is not sufficient. The challenge lies in institutionalizing a pro-innovation ethos across the state apparatus. Many of Pakistan's landmark reforms, from the deregulation of telecoms to the EMI and digital bank licensing frameworks, were championed by specific individuals or administrations. Their discontinuation risks losing momentum with political

turnover. To future-proof innovation, Pakistan must embed this reformist spirit into its institutional make-up. This includes developing bureaucratic cultures that view the private sector not as a rival, but as a co-partner in national development.

Practically, this means reducing regulatory friction, improving the ease of doing business, and investing in robust IP enforcement to encourage R&D. It also requires continuing to expand access to public digital infrastructure (e.g., Raast), especially for underserved populations. Without structural inclusion, innovation will remain elite-driven and uneven.

As outlined in the executive summary, Pakistan's deregulation journey is a complex but promising one. Through the lenses of Schumpeterian creative destruction, regulatory governance theory, and the diffusion of innovation model, we see a pattern of disruptive growth, contested institutional reform, and unequal adoption. Deregulation has catalyzed financial inclusion, boosted digital connectivity, seeded tech clusters, and revitalized agriculture through smart platforms. These gains are significant. But to sustain them, the transformation and transition must carry on, be it through "jugaar" or/and systemic policies.

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PHILIPPINES

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Transforming the Philippine Economy: The Twin Engines of Innovation and Market-enabling Reforms

Deregulation and innovation have emerged as powerful forces reshaping critical Philippine industries (Quimba et al., 2015; Asian Development Bank (ADB), 2007). By breaking down barriers to entry (Rivera & Tullao Jr., 2024), opening markets (Francisco et al., 2018), enabling cutting-edge technologies (Albert et al., 2018; Cororaton, 2003), the country can accelerate modernization and advanced inclusive growth (Habito, 2010). In line with this, we explore three sectors—namely telecommunications, information technology–business process management (IT-BPM), and tourism—and highlight recent reforms, their impact, and ways forward. These are three of the most dynamic and strategically important sectors in the Philippine economy. Collectively, they contribute significantly to economic growth, job creation, foreign direct investment, and inclusive regional development.

Telecommunications: Toward Inclusive Connectivity and Innovation

Following the creation of the Department of Information and Communications Technology (DICT) in 2016 and the development of the *National Broadband Plan* in 2017, a mix of competition, liberalization, and facilitation measures have been implemented in the ICT sector (Serafica et al.,

2023). A new license was awarded in 2019 to break up the duopoly in the mobile market. The *Mobile Number Portability Act* (Republic Act (RA) 11202) was also signed in 2019 to further promote competition by reducing the switching costs for mobile subscribers. Access to satellite services was liberalized under Executive Order (EO) No. 127 (2021), allowing telecommunication entities and value-added service (VAS) providers direct access to all satellite systems, whether fixed or mobile, international or domestic, to build and operate broadband facilities to offer Internet services. A pivotal regulatory measure aimed at democratizing access to Internet services, especially in geographically isolated and disadvantaged areas (GIDAs), it also encourages the development of innovative service models (e.g., community Wi-Fi, hybrid satellite–fiber systems, and satellite-powered mobile broadband). To invite global capital and expertise, the *Amendment to the Public Service Act* (RA 11659) was passed in 2022 opening telecommunications and other public services to full foreign equity participation, subject to certain safeguards.

In terms of facilitation measures, the DICT's *Common Tower Policy*, issued in 2020, establishes standards for the shared use of passive telecommunications tower infrastructure for macro cell sites. Through joint circulars in 2021 and 2022, the Anti Red Tape Authority (ARTA) and various government agencies sought to rationalize the processes and requirements for granting permits to accelerate building of telecommunication infrastructure and expand coverage of Internet services. To address infrastructure rollout delays, EO 32 (2023) streamlined the permitting process for telecommunication and Internet infrastructure by reducing documentary requirements to core clearances (e.g., building, height, and environmental permits) and applied these simplified procedures retroactively to pending applications.

These reforms collectively expanded connectivity across both urban centers and rural zones and catalyzed the deployment of 4G and 5G networks. More competitive pricing and service innovation were also introduced. The emergence of over 20 independent tower companies and the implementation of tower-sharing mechanisms under EO 32 have accelerated infrastructure buildout while reducing deployment costs (Maderazo, 2024). At the same time, telecommunications firms have diversified into financial technology, cloud computing, IoT applications, and AI-enabled customer service (Siddiqui, 2024; Tabile, 2023). However, disparities in digital infrastructure, Internet speed, and affordability persist, necessitating further reforms to bridge the digital divide across the country (Serafica & Oren, 2024; Serafica et al., 2023). A priority measure in the *Philippine Development Plan* (PDP) 2023–2028, the *Open Access in Data Transmission Law*, seeks to further reduce barriers to entry and expansion in Internet service provision (Balisacan, 2025) also entered into law in August 2025 (Cabalza, 2025).[70] According to Balisacan (2025), this is a "game-changer," introducing reforms to open the market, boost competition, lower network rollout costs, and improve digital service quality.

IT-BPM: Toward Innovation Hubs From Call Centers

The Philippine IT-BPM sector has evolved from a call center-dominated industry into a globally competitive hub for high-value services, driven by a combination of regulatory incentives and digital transformation (U et al., 2025; Errighi et al., 2016; Mitra, 2013). A key enabling factor in its early growth was the liberalization of the telecommunications sector in the 1990s, which improved the quality, affordability, and efficiency of telecom infrastructure, crucial for digitally dependent service exports (Yi, 2012). Building on this foundation, supportive government policies provided the institutional structure for expansion. The *Special Economic Zone Act of 1995* (RA 7916)

established the Philippine Economic Zone Authority (PEZA) and created designated zones offering a suite of fiscal and non-fiscal incentives to export-oriented firms, including those in IT and BPO markets. These incentives included income tax holidays, tax and duty exemptions on imported capital equipment, and streamlined customs procedures, which significantly lowered the cost of doing business. Complementing RA 7916, the *Omnibus Investments Code of 1987* (EO 226) further reinforced PEZA's mandate by institutionalizing location-specific tax incentives and investment facilitation services for foreign and domestic investors. As documented by Yi (2012), PEZA introduced significant reforms to broaden access and attract ICT locators. For instance, in December 2000, PEZA reduced the minimum land area requirement for declaring an IT park outside the National Capital Region (NCR) from 25 hectares to just 5 hectares. In NCR, PEZA allowed even a single building, or certain qualifying floors, to be designated as a PEZA-registered IT facility, provided the total floor area reached at least 5,000 square meters, excluding parking areas and rooftop gardens. Moreover, PEZA introduced one-stop-shop services for business registration, offering exemptions from various local government permits, licenses, and fees, as well as facilitating approvals for building occupancy, import/export transactions, and environmental compliance. These streamlined procedures significantly reduced both start-up time and regulatory costs for firms. To promote good governance and minimize corruption risks, PEZA also implemented an internal policy of rotating staff assignments, enhancing transparency and accountability in permit issuance and client servicing.

These policy frameworks enabled the IT-BPM industry to emerge as one of the country's vital economic drivers. Initially concentrated on voice-based customer service, the sector has expanded into higher-value services such as software engineering, data analytics, financial technology, creative industries, medical transcription, and knowledge process outsourcing (KPO) (Errighi et al., 2016; Tullao Jr. et al., 2015; Rodolfo, 2005). This transformation has been fueled by increased investment in automation, AI, cloud computing, and digital platforms, enhancing both productivity and service complexity (U et al., 2025; Cucio & Hennig, 2025). Clustering of firms within PEZA-managed IT parks has further enabled collaboration, research and development, and the emergence of startup ecosystems in major urban centers (i.e., NCR, CALABARZON (Cavite, Laguna, Batangas, Rizal, Quezon Province), Metro Cebu, Metro Davao, Iloilo City, Cagayan de Oro City) (PEZA, 2024; Teves et al., 2023; Go, 2012).

In 2024, the IT-BPM sector contributed an estimated 8 to 10 percent of Philippine GDP, generating over $30 billion in annual revenues, employing between 1.5 million to 1.7 million Filipinos, and indirectly supporting an additional 3 to 5 million jobs across transportation, food, real estate, and other related sectors (Lim, 2025) making it the second-largest source of foreign exchange after overseas remittances (Tarriela, 2023). Beyond NCR, PEZA zones have helped expand employment and entrepreneurship opportunities in emerging regions (PEZA, 2024; Teves et al., 2023; Go, 2012). However, industry players face growing challenges, including infrastructure bottlenecks, rising operational costs, and increasing competition from neighboring countries (e.g., Vietnam, India), which are aggressively investing in their ICT sectors. Nonetheless, with continued public-private collaboration, digital upskilling programs, and robust investment incentives, the Philippines remains well-positioned to strengthen its status as a global IT-BPM innovation hub (Tech for Good Institute, 2024).

Tourism: Toward Innovation-driven Transformation From Regulatory Foundations

The Philippine tourism industry has also emerged as a pillar of national development propelled by strategic deregulation and innovation (Rivera & Andrada, 2024). A key milestone in institutionalizing this trajectory was the enactment of the *Tourism Act of 2009* (RA 9593), which formally positioned tourism as a "national engine of investment, employment, growth and national development." The law also established the Tourism Infrastructure and Enterprise Zone Authority (TIEZA), an attached agency of the Department of Tourism (DOT), to lead infrastructure development and implement a system of fiscal incentives through the creation of Tourism Enterprise Zones (TEZs). TEZs offer streamlined regulatory processes and investment perks designed to attract tourism developers, while aligning both national and local government support behind designated tourism development projects. To support capital mobilization in the sector, TIEZA provides a range of fiscal and non-fiscal incentives to eligible tourism enterprises. These include an income tax holiday of up to 12 years, full foreign equity participation in hotel and accommodation development (subject to a minimum investment threshold), and the ability to lease land for up to 75 years, notwithstanding the constitutional limit of 40 percent foreign ownership in land (Yi, 2012). In parallel, air transport liberalization was pursued through Bilateral Air Services Agreements (BASAs), which opened new international air routes and improved connectivity to the Philippines, particularly vital for attracting foreign tourists to island and regional destinations. This policy shift was underpinned by empirical findings, including those of Piermartini and Rousová (2008), who found that liberalizing air transport services has a statistically significant positive effect on international passenger flows (i.e., tourist arrivals). Complementing these initiatives were investments in airport upgrades and port access, undertaken to reduce physical and logistical bottlenecks. However, despite these ambitious reforms, regulatory uncertainty, overlapping agency mandates, and delays in infrastructure implementation have constrained the full realization of intended outcomes (Rivera & Andrada, 2024; Yi, 2012). Persistent gaps in local government capacity, inconsistent application of environmental safeguards, and weak digital infrastructure in secondary destinations continue to limit tourism's inclusive and sustainable expansion. Nonetheless, these reforms have laid the institutional groundwork for positioning tourism as a dynamic driver of inclusive growth through innovation in smart tourism, community-based ecotourism, and public-private partnerships in destination management.

Likewise, these institutional foundations are reinforced, and their constraints increasingly mitigated, by innovation, which has emerged as a critical enabler of growth across the tourism sector. Through convergence programs between DOT, the Department of Science and Technology (DOST) and DICT, the government has also launched smart tourism technologies including environmental monitoring sensors, visitor analytics, cashless payment systems, mobile guide applications, and augmented reality features aimed at enhancing visitor experience and safety (Rocamora, 2022, 2021).

Tourism development has also emphasized sustainability and community inclusion (Roxas et al., 2020). Community-based ecotourism (CBET) programs are now extensive initiatives integrating local enterprises and cooperatives into tourism value chains, creating livelihood opportunities in rural areas and natural attractions (Rodolfo et al., 2023). These efforts have complemented the role of TEZs and PEZA-managed ecozones in dispersing tourism's benefits beyond urban centers. In terms of performance, in 2024, the Philippine tourism sector demonstrated remarkable recovery

and economic resilience. International arrivals reached approximately 14.7 million, nearly returning to the pre-pandemic level of 17.1 million in 2019, as per data from the Bureau of Immigration (BI) (Philippine News Agency (PNA), 2025). Meanwhile, data from the Tourism Satellite Accounts (2025) released by the Philippine Statistics Authority (PSA), as reported by Cacho-Laurejas (2025) and Desiderio (2025), show tourism's direct gross value added (TDGVA) surged to PHP 2.35 trillion ($41 billion), reflecting an 11.2 percent increase year-on-year and representing 8.9 percent of GDP, which is the highest share since 2019. The sector also supported 6.75 million jobs, marking a 6.1 percent growth from 2023 and accounting for 13.8 percent of total employment. Notably, domestic tourism spending rose 16.4 percent to PHP 3.16 trillion ($55 billion), while international tourist expenditure was at approximately PHP 700 billion ($12.3 billion). These indicate a robust post-pandemic rebound and underscore tourism's vital role in economic recovery and job creation.

An example of sustainable destination management is Boracay's 2018 environmental rehabilitation, where the island was closed for six months to address overtourism, improper sewage disposal, and uncontrolled development (Cabalquinto, 2024; Recuenco, 2022). This led to the enforcement of stricter zoning laws, waste treatment protocols, and carrying-capacity limits, now considered a model for sustainable tourism across the Philippines. However, challenges persist. Digital infrastructure gaps, particularly in remote destinations, continue to hinder smart tourism integration (Gutierrez et al., 2025). Additionally, there is an urgent need to preserve local culture, promote equitable benefit-sharing, and enforce environmental safeguards to prevent unsustainable development, especially in emerging tourism sites (Gutierrez et al., 2020). As tourism demand rebounds, sustained investment in inclusive innovation and stronger institutional coordination will be key to ensuring resilient and regenerative growth in the sector (Rivera et al., 2024).

Conclusions

Sound regulation, effective institutions, and healthy market competition foster productivity, innovation, and inclusion (United Nations Conference on Trade and Development (UNCTAD), 2020; Cusolito & Maloney, 2018; World Bank, 2010). We have seen that the Philippine economy has been markedly transformed by the combined forces of deregulation and innovation. Across telecommunications, IT-BPM, and tourism, reforms have tempered imperfect competition, opened markets to foreign and local investment, and introduced enabling environments for technology-driven growth. Telecommunications reform has fostered infrastructure development and service expansion, boosting digital access nationwide. In parallel, IT-BPM policies (RA 7916, EO 226) have enabled the sector to evolve from low-cost call center work to high-value services such as software development, data analytics, and AI applications. Likewise, tourism benefited from RA 9593, which institutionalized TEZs and opened pathways for sustainable, smart tourism models that combine technology, environmental stewardship, and community-based development. As such, performance metrics, as of 2024, have been compelling given the contribution of the IT-BPM and tourism industries to GDP and employment; and the improvements in average broadband speeds and mobile internet coverage. These gains reaffirm the crucial role of enabling policies and digital innovation in fostering sectoral resilience and national competitiveness.

However, the road ahead requires continued commitment. Persistent challenges (e.g., market structures with high concentration, infrastructure bottlenecks in rural and secondary cities,

fragmented policy enforcement at the local level, and digital literacy gaps) threaten to constrain progress if left unaddressed. As such, the authors recommend the following strategic directions:

1. **Strengthen policy implementation at both the national and local levels.** Ensure that national policies like EO 32 and RA 11659 are uniformly adopted and enforced across local government units (LGUs), particularly for telecommunications and tourism investment facilitation. Capacity building for local governments is essential to reduce red tape and align with national digital and tourism strategies.

2. **Scale infrastructure and connectivity gaps.** Expand investment in digital infrastructure to close the urban–rural divide. This includes last-mile broadband access, smart grids in ecozones, and tech-enabled facilities in tourism destinations. Free public Internet access programs should be deployed more effectively to target underserved communities and regions, particularly in geographically isolated and disadvantaged areas (GIDAs).

3. **Deepen innovation ecosystems.** Encourage cross-sectoral innovation by supporting research and development hubs, startup ecosystems, and local enterprises embedded in tourism, BPO, and digital infrastructure networks. Strengthen linkages between academe, government, and industry.

4. **Invest in human capital.** Upskill the Filipino workforce to meet the demands of next-generation ICT and tourism services, particularly in digital literacy, sustainability practices, and soft skills. Support reskilling and lifelong learning initiatives to future-proof employment across all three sectors.

5. **Institutionalize sustainability and inclusion.** Ensure that innovation and growth do not come at the expense of environmental or cultural degradation. Institutionalize sustainability metrics for PEZA and TEZs and reinforce inclusive growth policies to benefit MSMEs, women, island economies, and indigenous communities by facilitating low-cost, remote broadband delivery while expanding access to e-learning, telehealth, e-commerce, and mobile tourism applications.

The Philippines has made bold strides in leveraging deregulation and innovation to modernize key industries and stimulate inclusive development. Sustaining this trajectory will require coherent governance, cross-sectoral collaboration, and forward-looking investments that keep people, technology, and sustainability at the center of economic transformation.

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POLAND

THINKTANK, By Dr. Małgorzata Bonikowska and Dr. Bruno Surdel

Between 2023 and 2025, Poland implemented a wave of regulatory reforms that paired targeted deregulation with digital and technological innovation. The objective was to improve market efficiency, reduce administrative burdens, and deepen integration with EU frameworks. This contribution examines three emblematic cases where innovation meets regulatory change: 1) the creation of a Fintech and open-banking regulatory sandbox, 2) the launch of smart-grid regulatory pilots in the electricity market, and 3) the rollout of the national e-Delivery system together with the mObywatel 2.0 digital-identity platform.

Fintech and Open-Banking Sandbox

The Polish Financial Supervision Authority (KNF) opened a two-tier regulatory and technological sandbox on January 7, 2024.[71] The initiative offers a cloud-based virtual testing environment as well as controlled live-market pilots, enabling innovative firms to validate new products under supervisory guidance. Regulatory space for the sandbox was created by an amendment to the Payment Services Act, signed on August 16, 2023 and effective from January 1, 2024. The amendment streamlined third-party provider licensing, cutting average KNF processing time from roughly 120 to about 60 calendar days.[72]

By December 2024, the sandbox had hosted 33 companies covering payments, micro-lending, and insurtech applications, according to the KNF Activity Report 2024.[73] Beyond the sandbox, Poland's broader Fintech landscape has also expanded: the U.S. Department of Commerce's 2025 market brief identifies more than 300 Fintech start-ups operating in the country.[74]

The sandbox framework was designed with forthcoming European legislation in mind, including the third Payment Services Directive (PSD3) and the planned Open Finance framework.[75] By aligning local rules with the EU roadmap, Poland ensures that sandbox graduates will be able to passport their licenses across the single market once secondary EU legislation enters into force.

Smart-Grid Regulatory Pilots in the Electricity Market

Energy-sector innovation gained momentum on July 28, 2023, when amendments to the Energy Law introduced regulatory pilots administered by the President of the Energy Regulatory Office (URE).[76] The provisions allow peer-to-peer trading, virtual prosumers, and demand-response aggregation to be tested under time-limited exemptions from standard licensing and tariff rules. A complementary measure had from August 24, 2024 on given households equipped with certified smart meters the right to sign dynamic-pricing contracts.[77] This reform accelerates the rollout of the Central Energy Market Information System (CSIRE), intended to support real-time data exchange among market participants.

Smart-meter penetration provides a useful proxy for Poland's digital-grid readiness. The URE National Report 2024 records 5.54 million remotely read meters, corresponding to 29 percent of households, as of December 2023.[78] Follow-up statistics indicate that penetration had risen to 38.3 percent (7.4 million meters) by December 2024.[79]

While results from the first regulatory pilots will not be published until 2026, the legal framework already positions Poland to meet emerging EU requirements on consumer flexibility and market integration.

Regulatory pilots reduce market-entry barriers for local energy communities and technology providers, encouraging experimentation with new retail models and aggregation services. Over time, these pilots are expected to increase wholesale market liquidity and support the EU's Electricity Market Design reform, which emphasizes demand-side flexibility and consumer empowerment.[80]

Digital Government: e-Doreczenia and mObywatel 2.0

The Act on Electronic Deliveries (Journal of Laws/Dziennik Ustaw 2020, item 2320) mandates that all entities listed in the National Court Register (KRS) obtain a qualified electronic mailbox (e-Doręczenia).[81] The reform enables legally valid electronic service of documents, eliminating the need for registered letters in most administrative and judicial procedures. Parallel to the mailbox system, the Ministry of Digital Affairs launched the mObywatel 2.0 mobile application in July 2023.[82] The app provides an EU-compliant digital identity and consolidates key credentials such as driving license and vehicle registration.

Adoption has proceeded rapidly. As of June 2025, the Ministry reports more than 1.4 million active business mailboxes, covering 92 percent of entities registered in the KRS.[83] The uptake of digital identity services has been similarly strong: the mObywatel 2.0 application counted 8 million active users in January 2025.[84]

By replacing paper correspondence with secure electronic delivery, the e-Doręczenia system shortens administrative timelines from days to minutes and reduces postage and archiving costs. A comprehensive cost-benefit analysis is scheduled for publication by the Supreme Audit Office (NIK) in 2026, but preliminary Ministry estimates indicate significant efficiency gains for both government and business.[85]

UNITED STATES

The Information Technology and Innovation Foundation (ITIF), By Mario Ottero Cricco

Airline Deregulation in the United States: A Model of Pro-Consumer Reform

The Airline Deregulation Act of 1978 remains a landmark moment in U.S. economic policymaking. It represented the first major rollback of federal control over a key industry, unleashing competition that transformed air travel from a luxury to a widely accessible service. Over the decades since, consumers have benefited from lower fares, expanded route options, and innovation in airline operations. While consolidation has raised some concerns, the overall impact of deregulation has been overwhelmingly positive. This report revisits the origins, outcomes, and ongoing implications of U.S. airline deregulation.

Before deregulation, the U.S. airline industry was tightly controlled by the Civil Aeronautics Board (CAB), which determined routes, fares, and market entry. Airlines required CAB approval for nearly every aspect of their operations. The system stifled competition, kept prices artificially high, and limited consumer choice.

What Deregulation Achieved

- **Lower Fares:** One of the most tangible benefits of deregulation has been a significant decrease in ticket prices. Between 1976 and 1990, real (inflation-adjusted) fares fell by 30 percent. Since then, average fares have continued to decline and are now 30 to 50 percent lower than in 1978. Airline travel, once reserved for wealthier Americans, is now a routine option for millions.
- **Improved Productivity:** Deregulation also sparked major gains in productivity. Between 1997 and 2014, productivity in the airline industry grew nearly four times faster than in the overall economy. Airlines optimized routes, adopted hub-and-spoke systems, and deployed revenue management tools that allowed more efficient use of resources.
- **More Competition and Access:** Opening markets to competition led to more airlines operating on more routes. Despite industry consolidation, the number of carriers per route increased by about 25 percent in the years following deregulation. Low-cost and ultra-low-cost carriers have expanded rapidly, offering more choices to consumers.
- **Safety Preserved:** Safety regulation remained under the jurisdiction of the Federal Aviation Administration (FAA), ensuring that the relaxation of economic controls did not jeopardize passenger safety. In fact, the industry has maintained a strong safety record post-deregulation.
- **Significant Consumer Gains:** Estimates suggest that consumers benefit by around $6 billion per year due to lower prices and improved service availability. The demand for air travel has grown at about 4 percent annually, outpacing general economic growth.
- **Concerns About Consolidation**: While a handful of large carriers now dominate the U.S. market, this trend has not led to the anti-competitive outcomes that critics predicted: Fares have continued to fall. New entrants, particularly budget carriers, have gained market share. Route-

level competition remains strong, with multiple airlines operating in most major markets. Profit margins in the airline sector, while positive, remain lower than those in the broader economy, 8.8 percent in 2017 compared to 11 percent for the S&P 500.

Lessons for Global Aviation: The Case for Open Skies

The success of U.S. airline deregulation inspired many countries to reform their own domestic markets. International air travel, however, remains more heavily restricted. Open Skies Agreements, which remove government-imposed limits on routes and pricing between countries, have demonstrated clear benefits where adopted: lower fares, better service, and more competition. Yet many governments still shield national carriers from foreign competition.

Policy Takeaways

1. **Focus on Market Outcomes, Not Market Structure.** Concentration metrics alone do not indicate harm. What matters is whether consumers continue to benefit from lower prices, more choices, and innovation.

2. **Expand Open Skies Agreements**. The United States should continue advocating for international liberalization of airline markets, particularly in regions where protectionism remains entrenched.

3. **Ensure Healthy Competition.** Regulators should monitor competition at the route level and address anticompetitive conduct where necessary, without overregulating based on firm size alone.

4. **Encourage Innovation.** Allowing carriers the freedom to experiment with pricing, routing, and services has spurred significant innovation. That flexibility should be preserved.

5. **Maintain Rigorous Safety Oversight**. Economic deregulation should not be confused with regulatory neglect. The FAA's role in maintaining safety remains essential and effective.

The deregulation of the airline industry stands as a powerful case study in the benefits of market-based reform. It has delivered lower prices, increased access, and stronger competition, all while maintaining safety and encouraging innovation.

Accelerating 5G Through Smart Deregulation: A National Imperative

The deployment of 5G networks in the United States represents not only the latest step in telecommunications infrastructure, but a crucial enabler of future innovation, economic growth, and global competitiveness. The potential of 5G extends beyond faster mobile connectivity; it underpins next-generation technologies including telemedicine, smart infrastructure, and advanced manufacturing. To realize and sustain these benefits through future wireless advances, policymakers at all levels must embrace regulatory modernization and streamline deployment policies to eliminate bottlenecks, reduce costs, and accelerate buildout.

The United States has historically led the world in mobile innovation, thanks in large part to sustained investment and spectrum allocation strategies that have supported private sector development. Between now and 2030, the 5G economy is projected to contribute between $1.4 and $1.7 trillion to U.S. GDP and create up to 4.6 million jobs. Yet despite this potential, outdated

regulatory frameworks continue to delay infrastructure rollout, particularly at the state and local level.

As ITIF noted in a recent submission to the Federal Communications Commission (FCC), 5G deployment relies heavily on small cell infrastructure, with low-powered antennas often affixed to existing structures such as utility poles and streetlamps. Unlike 4G, which depended on fewer large towers, 5G requires a dense network of nodes to function optimally. Local governments, however, have at times treated telecom installations as revenue-generating "franchise agreements," slowing deployment through excessive fees and lengthy permitting timelines. These practices must be replaced with cooperative models that treat wireless expansion as a shared public priority.

Congress and the FCC have taken important steps to preempt overly burdensome local regulations. The FCC's 2018 Declaratory Ruling established time limits for permit review and capped fees for small cell installations. Yet the costs are arbitrary and the local decisionmaking inconsistent. The Commission further updated the ruling in 2020 to prevent unnecessary delays, emphasizing the need for timely, predictable infrastructure approvals.

Still, resistance remained. Over two dozen municipalities filed lawsuits challenging the FCC's preemption, arguing that it undermined their control over public assets and subsidizes telecom firms at the local taxpayer's expense. While local input remains essential, these legal challenges underscore the need for a more unified national framework that balances federal leadership with municipal cooperation.

State-level efforts have proven valuable in bridging this divide. More than 30 states have enacted legislation that streamlines small cell deployment by limiting fees, simplifying applications, and setting uniform review timelines. These laws provide helpful templates for the states which have yet to act, offering industry-standard principles that facilitate deployment while respecting local governance structures.

Spectrum allocation is another area ripe for reform. A 2022 report by the U.S. Government Accountability Office found that the National Telecommunications and Information Administration (NTIA) lacks a comprehensive planning framework for reallocating federal spectrum to commercial uses. Without coordinated interagency processes, spectrum bottlenecks can delay 5G rollouts and erode U.S. leadership in global technology markets.

To address these challenges, federal regulators should establish clear guidelines for municipal engagement, incentivize state-level reforms, and pursue more aggressive timelines for repurposing federally held spectrum. Streamlining access to utility poles, harmonizing zoning rules, and encouraging multi-stakeholder collaboration will be essential to scaling 5G deployment nationwide.

The stakes are high. As other countries—particularly China, South Korea, and EU members—advance their 5G strategies with centralized coordination and targeted subsidies, the United States cannot afford a patchwork regulatory environment. Smart deregulation, built on transparency, predictability, and public-private collaboration, will ensure the United States remains the world leader in wireless innovation.

Powering the Future: U.S. Small Modular Reactors

The United States continues to lead the world in nuclear energy output, with 93 operational reactors producing one-third of global nuclear power. Yet, its position in nuclear innovation is slipping. Only two new reactors have come online over the past two decades, while geopolitical rivals—China, Russia, and others—aggressively invest in next-generation nuclear technologies. To maintain leadership in this strategic sector, the United States must adopt a coherent national strategy and a whole-of-government approach focused on the next frontier of nuclear energy: small modular reactors (SMRs).

SMRs offer a transformative opportunity. Unlike traditional reactors, they can potentially be produced in factories, scaled flexibly, and deployed in diverse settings, from remote locations to decommissioned coal plants. U.S. companies stand at the forefront of SMR development, but global competition is intensifying. For SMRs to succeed, they must achieve price and performance parity with fossil fuels. Scaling up through mass production is the clearest path to that goal.

However, several challenges stand in the way. Currently, SMRs are expensive and the path to cost parity is not clear. In part, this is because of the U.S. regulatory environment. Iterative development, a hallmark of innovation, is slowed by a licensing regime that was designed for large, one-off reactors. Every design change can trigger costly delays, extensive reviews by the Nuclear Regulatory Commission (NRC), and the risk of fresh litigation under the National Environmental Policy Act (NEPA). Reforming this process is not about lowering safety standards, but about creating a clear, predictable, and innovation-friendly regulatory framework.

Recent legislation points in the right direction. The Nuclear Energy Innovation and Modernization Act (NEIMA) and the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act offer practical reforms, streamlining certification, reducing fees, incentivizing deployment, and improving NRC staffing flexibility. These efforts also include crucial long-term provisions, such as extending indemnification under the Price-Anderson Act through 2045, ensuring continued industry viability.

Yet more must be done. A tiered regulatory approach, allowing rapid approval of non-critical design changes, is vital to enable innovation without undermining safety. Similarly, processes that prioritize licensing SMRs at brownfield sites can accelerate deployment while revitalizing economically distressed areas.

Even though standardization reduces cost and risk, SMRs are still in an earlier stage of development where forced standardization could harm innovation. Understanding and learning from global frameworks—such as those developed by the NEA's CORDEL initiative, the Multinational Design Evaluation Programme (MDEP), and the European Reactor Design Approval (ERDA)—even as the United States develops its own approach, will ensure American firms can compete abroad while preserving high safety and environmental standards.

Ultimately, the future of SMRs, and U.S. leadership in nuclear energy, depends on a modernized, risk-informed strategy that fosters innovation, encourages private investment, and ensures global competitiveness.

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CONCLUSION

The case studies presented in this report highlight a shared global challenge: the accumulation of outdated, duplicative, and rigid regulations that hinder innovation, suppress competition, and impose disproportionate costs on small firms and new entrants. Across both advanced and developing economies, deregulation has emerged as a powerful tool to remove these barriers, encourage investment, and stimulate inclusive growth.

From Argentina's sweeping reforms targeting aviation, energy, digital connectivity, and real estate to Bangladesh's rapid expansion in telecommunications and mobile financial services, the examples reveal how market liberalization can unlock significant economic potential. Australia's targeted reforms in agriculture, fintech, and renewable energy demonstrate the benefits of regulatory flexibility in enabling technological advancement, while Brazil's efforts across telecoms, ports, and financial services show how deregulation can drive sectoral modernization and innovation.

Several countries pursued deregulation to improve market access and consumer choice. Chile's reforms in number and financial portability reduced switching costs and promoted competition. Germany's liberalization of transport and freight services, along with online pharmaceutical sales, enhanced efficiency and consumer welfare. Meanwhile, Italy and Poland introduced procedural simplifications to accelerate infrastructure deployment and support business activity.

The energy sector exemplifies both the complexity and promise of deregulation. Countries such as Bulgaria, Pakistan, Poland, and the United States used market-based reforms to improve energy security, promote renewables, and reduce inefficiencies.

While each country tailored its approach to its legal, political, and economic context, several common principles emerged: reducing compliance costs, enhancing transparency, fostering competition, and supporting innovation. Importantly, many reforms extended beyond mere rule-counting and focused on outcome-based regulation, where the quality, not just the quantity, of regulations matters.

However, these reforms are not without challenges. Resistance from vested interests, institutional inertia, and the risk of replacing public monopolies with private ones require careful policy design. Moreover, equity and access considerations remain vital to ensure that deregulation delivers broad-based benefits rather than deepening existing divides.

One ITIF report outlines six principles that should guide regulatory policy in a modern, innovation-driven economy:

1. **Anticipate Innovation:** Regulation must account for rapidly evolving technologies and business models.
2. **Embrace Transparency**: Regulatory processes should be open and allow for the correction of biased or incomplete information.
3. **Trust the Consumer:** Providing accurate information to consumers can often achieve better outcomes than prescriptive regulations.

4. **Minimize Type I Errors:** Overregulating can stifle innovation, especially in globally competitive sectors. Regulators tend to focus on the avoidance of harms, but when they overregulate they can prevent useful innovations from entering societies.
5. **Use Cost-Benefit Analysis:** Regulations should only be adopted when benefits clearly outweigh costs.
6. **Focus on Metagoals**: Agencies should set high-level objectives instead of micromanaging technical details, which often leads to unintended consequences.[86]

Smart deregulation is not about removing all rules, it's about optimizing the regulatory environment to foster innovation, productivity, and inclusive economic growth. As the evidence shows, countries that liberalize entry, streamline rulemaking, and empower consumers tend to achieve higher growth, more investment, and better outcomes for firms and workers alike.

Acknowledgments

The authors would like to thank the GTIPA contributors to this report. These include: Horacio Arana and Federico N. Fernández from Fundación Internacional Bases & We Are Innovation; Syed Munir Khasru, The Institute for Policy, Advocacy, and Governance (IPAG); Vladimir Fernandes Maciel, Centro Mackenzie De Liberdade Econômica; Atanas Nedyalkov, ArcFund; Nicolas Duran, Libertad y Desarrollo; Luis E. Loría, IDEAS Labs; Andres Vega, Ecuadorian Chamber of Innovation and Technology (CITEC) ; Hubertus Bardt, Bertold Busch, and Thomas Puls from the German Economic Institute; Kyungjin Song, Asiatic Research Institute, Korea University; Kriti Singh, The Dialogue; Stefano da Empoli, I-Com; Pietro Paganini, Competere; Ahmad Khoirul Umam, Paramadina Public Policy Institute; Sheraz Ahmad Choudhary and Javairyah Aatif, Islamabad Policy Research Institute (IPRI); Dr. Małgorzata Bonikowska and Dr. Bruno Surdel, THINTANK; John Paolo R. Rivera and Ramonette B. Serafica, Philippine Institute for Development Studies. The authors also wish to thank Erica Schaffer for producing the report.

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The Global Trade and Innovation Policy Alliance (GTIPA) is a global network of independent think tanks that are ardent supporters of greater global trade liberalization and integration, deplore trade-distorting "innovation mercantilist" practices, but believe that governments can and should play important and proactive roles in spurring greater innovation and productivity in their enterprises and economies. For more information, visit gtipa.org/about.

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