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LETTER TO EDITOR

Cutting the Cord, Cutting Livelihoods: The Economic Toll of Internet Shutdowns in Iran

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A B S T R A C T

Internet shutdowns have emerged as a major threat to economic resilience, particularly in countries where digital platforms support a substantial share of employment and commerce. This letter highlights the economic consequences of internet disruptions in Iran by synthesizing recent evidence on financial losses and their impact on digital livelihoods. Although it is difficult to quantify precisely the economic losses, available evidence indicates that internet disruptions impose a heavy economic burden, particularly on small online businesses, freelancers, ride-hailing drivers, digital marketers, and other economic actors who rely on uninterrupted internet access for their operations. Beyond immediate income losses, repeated shutdowns undermine consumer confidence, reduce business productivity, disrupt supply chains, and accelerate the migration of skilled digital workers. To mitigate these harms, the authors propose mandatory economic impact assessments before prolonged internet restrictions and the establishment of a compensation mechanism for affected digital workers. Internet shutdowns should be recognized not only as technological or political measures but also as policies with profound economic and social consequences.

Keywords: Commerce; Economics; Income; Iran; Internet

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To the Editor,

Internet shutdowns impose severe and measurable economic costs on modern societies, recent research has shown that digital disruptions affect employment, productivity, investment, and digital business activities (1, 2). Previous econometric studies have demonstrated measurable economic consequences of internet shutdowns, particularly through reductions in productivity and disruption of digital economic activities (1). In Iran, internet restrictions documented between September 2022 and early 2024 included recurring mobile network outages, localized and nationwide connectivity disruptions, and restrictions on access to major social media platforms, particularly Instagram and WhatsApp. For example, during September and October 2022, mobile internet services were disrupted daily for approximately 13 consecutive days, resulting in an estimated 100 hours of connectivity loss. Similar localized disruptions continued throughout 2023 and into early 2024, affecting several provinces. These restrictions affected digital economic activities, particularly online services, small businesses operating through social media platforms, and employment activities dependent on internet connectivity (3).

Yet these macroeconomic figures conceal the profound human consequences of digital blackouts. In contemporary Iran, internet access is not merely a communication tool but an essential infrastructure for economic survival. Many small businesses, entrepreneurs, freelancers, and service providers increasingly depend on digital platforms and social media networks for marketing, customer communication, and economic activities. (4). Therefore, restrictions on internet access can directly disrupt digital livelihoods and online commercial interactions; recent evidence from Iran indicates that internet restrictions have affected over 306,000 registered e-commerce businesses, causing a 74% decline in demand and approximately $4 billion in losses to the e-commerce sector.(4) Consequently, when nationwide internet restrictions are imposed, many of entrepreneurs, freelancers, online retailers, and service workers abruptly lose access to customers, payment systems, and commercial networks (5). Emerging economic evidence suggests that reliable internet connectivity is associated with improved market access, stronger supply chains, and local economic development (5); while these findings primarily reflect the effects of connectivity expansion, they imply that disruptions to such connectivity may reverse these gains (6). Taken together, internet shutdowns should be understood not only as technological or political interventions, but also as policies with far-reaching economic, social, and humanitarian consequences (7, 8).

Table 1. Potential Sector-Specific Economic Consequences of Internet Shutdowns: Disruption Mechanisms and Livelihood Impacts

Economic sector	Potential mechanism of disruption	Potential economic consequence
E-commerce	Restricted access to online stores, social media and digital customer channels (3)	Interrupted sales and reduced customer access
Ride-hailing and delivery	Disruption of app-based communication and service coordination (9)	Reduced service availability and potential loss of earnings
Online freelancing	Restricted access to clients, work platforms and online collaboration tools (3)	Delayed project delivery and potential income loss
Remote corporate work	Interrupted connectivity and online workflows (3)	Reduced productivity and operational delays
Digital marketing	Restricted access to advertising and social media platforms (3)	Interrupted campaigns and reduced access to target audiences

Note: *Note: The table summarizes potential sector-specific disruption mechanisms and economic consequences. References for each row are provided below. The table does not provide quantitative estimates of daily losses for individual workers or businesses. The magnitude of these effects depends on the duration and severity of the disruption, the sector concerned, and the availability of alternative communication channels.*

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The economic consequences of internet disruptions are not distributed equally across occupational groups but are concentrated among workers and businesses whose income-generating activities depend heavily on digital platforms. In Iran, this dependence is particularly evident among small online businesses, as an estimated 83% of online businesses reportedly used Instagram, Telegram, or WhatsApp to generate sales, making platform restrictions a direct constraint on their customer reach and commercial activities (10). For informal workers and freelancers, disruptions to digital communication and transaction channels can undermine access to clients, continuity of service delivery, and the ability to receive payments. Similarly, ride-hailing and delivery services rely on digital platforms to coordinate drivers, customers, and service requests; therefore, network interruptions can impede the matching of workers with customers and disrupt income-generating activities (11). However, the magnitude of occupational impacts depends on the extent of platform dependence, the availability of alternative communication and transaction channels, and the duration and geographical coverage of connectivity restrictions.

To mitigate these potential harms, the authors recommend that systematic economic impact assessments be integrated into the decision-making processes concerning internet restrictions in Iran. Given the institutional distribution of responsibilities in managing the country's cyberspace, this issue should be addressed through coordination among relevant authorities—including the Supreme Council of Cyberspace, the Supreme National Security Council, and the Ministry of Information and Communications Technology—rather than being delegated exclusively to a single ministry.

The authors further suggest exploring the establishment of a publicly funded compensation mechanism for eligible workers and small businesses that incur demonstrable financial losses due to prolonged internet disruptions. Rather than imposing additional levies on digital transactions, such a mechanism could be supported through allocated public budget resources, subject to legal approval and financial feasibility. Eligibility criteria should encompass documented pre-disruption income, evidence of active economic operations, the duration and geographic scope of the disruption, and an assessment of the financial losses directly attributable to restricted connectivity. Independent verification procedures, standardized damage assessment criteria, payment caps, and post-payment audits are essential to minimize fraudulent claims, duplicate compensation, and moral hazard. While existing legal frameworks for income compensation and business interruption insurance offer relevant administrative models, their coverage terms vary and do not necessarily extend to government-imposed internet restrictions or systemic telecommunications outages. Therefore, the institutional arrangements, financing model, administrative feasibility, and distributional consequences of a dedicated compensation mechanism require further legal and empirical assessment. Ultimately, decisions regarding the restriction of internet access must include transparent evaluations of their economic impacts, as well as appropriate safeguards for workers and businesses whose livelihoods depend on digital connectivity.

Authors' Contributions

F.M contributed to conceptualization, project administration, literature review, writing the original draft, reviewing, and editing; S.B contributed to writing the original draft, reviewing, and editing. All authors read and approved the final manuscript.

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Competing Interests

The authors declare no competing interests.

Data Availability Statement

Not Applicable.

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This study did not require ethics approval.

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Not Applicable.

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