Cross-Border Data Flows

The impact of data localisation on IoT

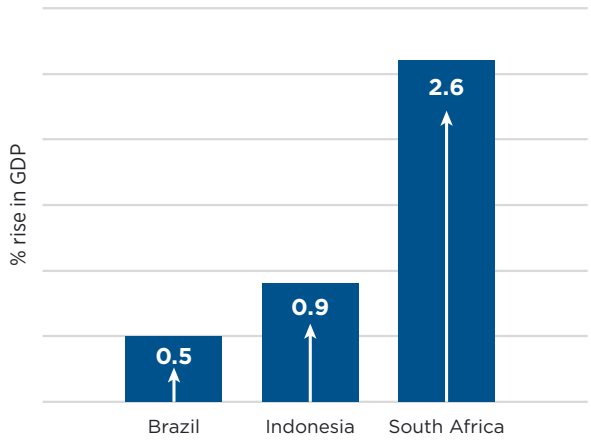
A summary

The Internet of Things (IoT) transforms business, energises communities and empowers individuals. It can also benefit countries through increased productivity, employment, exports, energy efficiency and GDP. To enable these technologies and unlock their potential, mobile operators and other players in the IoT ecosystem need business models and technologies that will work anywhere in the world and allow data to flow. However, some countries, concerned about digital sovereignty, are considering the imposition of localisation requirements that would have the effect of restricting international data flows and fragmenting the digital world.

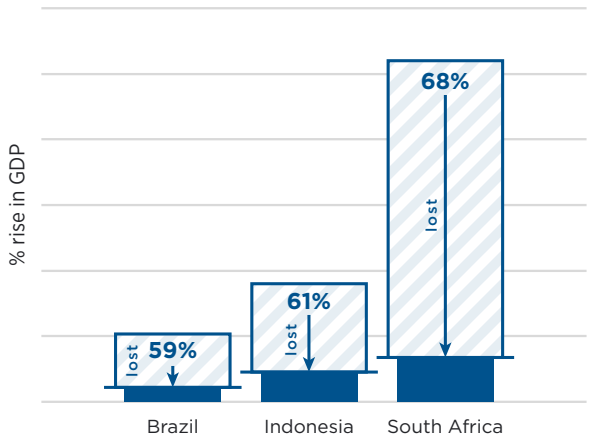
As a supplement to its 2018 report Cross-Border Data Flows: Realising Benefits and Removing Barriers[1], the GSMA now presents evidence-based research that quantifies the impacts of hypothetical localisation requirements in three countries in the context of IoT.[2] The findings from this research are stark. They suggest that over half the benefits from IoT would be lost if a country decided to implement localisation restrictions.

The impact of data localisation on IoT

Boost from IoT



Impact of localisation requirement



1. Cross-Border Data Flows, Realising Benefits and Removing Barriers, September 2018
2. The impact of data localisation on IoT, prepared for the GSMA by Hosuk Lee-Makiyama, Badri Narayanan (ECIPE); Simon Lacey (University of Adelaide), March 2020

IoT can boost economies by improving productivity, helping businesses to operate more efficiently and flexibly. Once implemented, IoT can lead to further gains as businesses use data from sensors to provide new solutions and services, improving welfare, demand, competitiveness and the variety of products on offer. Domestic gains are further improved by enhanced trade and investment across borders.

However, these benefits are easily undermined by data localisation requirements which can:

- **Increase business costs** through the need to duplicate expensive IT infrastructure, such as data centres
- **Cut business efficiencies and competitive advantage** by imposing restrictions on cross-border data flows that hamper ICT and mobile operators as they move to introduce new and better services
- **Reduce choice for businesses, communities and individuals** who will have access to more limited and lower quality apps and services delivered from a smaller pool of domestic providers

In effect, data localisation requirements can weaken the business case for adopting IoT — even for the most profitable multinationals. These increased costs result in suppressed economic activity across the entire economy — with negative impacts not just in GDP growth, but also trade flows, employment and investment.

Methodology

The study used the well-recognised GTAP[3] model to explore productivity gains from IoT and the negative impacts of hypothetical data localisation requirements in three countries with differing economies, geographies and cultures - Brazil, Indonesia and South Africa.

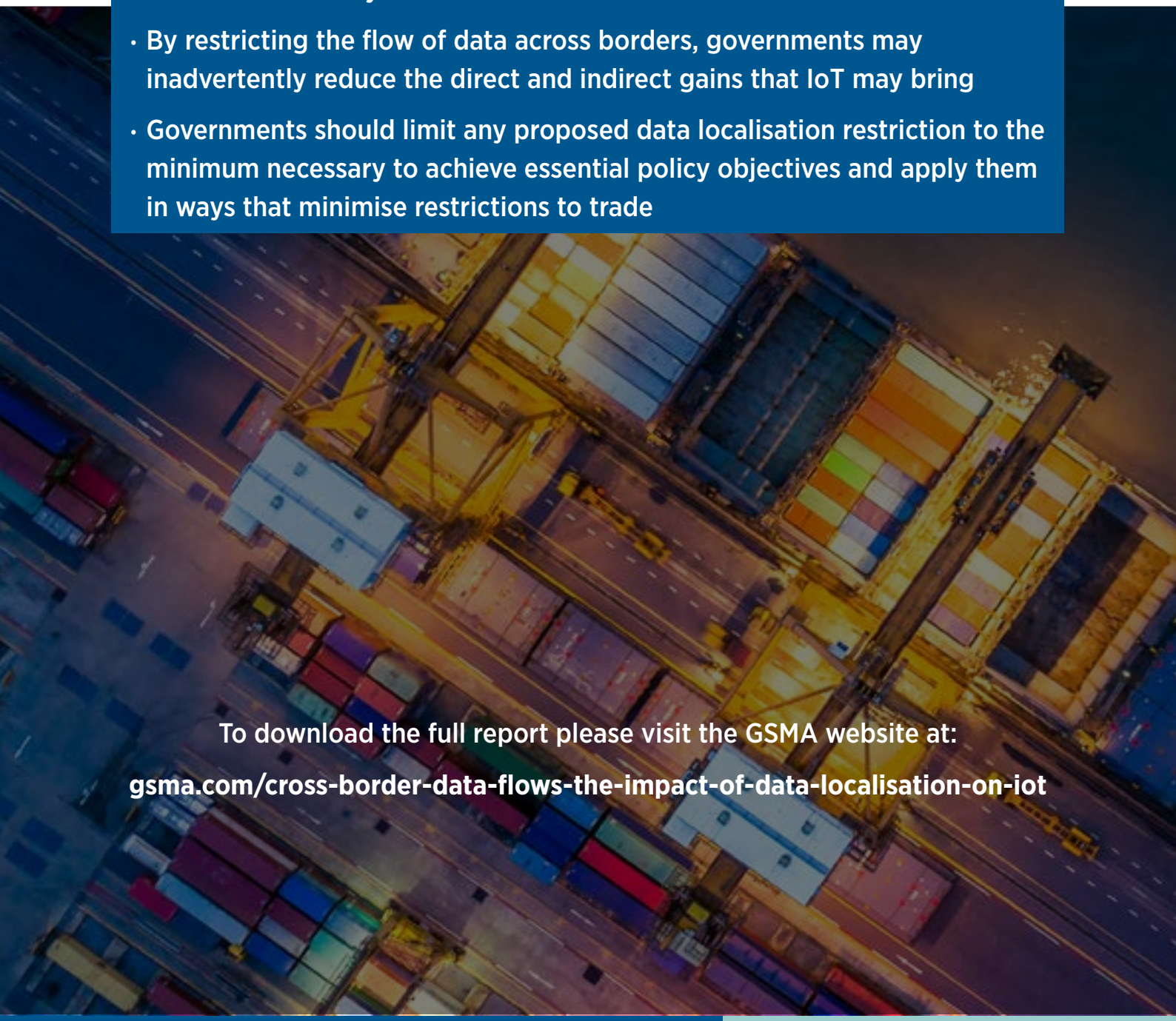
Taking the findings from the GSMA Intelligence (2019) study[4] as a starting point, computable general equilibrium (CGE) modelling was used to understand dynamic effects of IoT across the wider economy. Further modelling developed bythe WTO[5] was employed to provide expected change in trade costs from IoT as it impacts on trade 'at the border' before examining the effect of data localisation restrictions specifically on IoT (as opposed to a particular sector or type of data).

3. The Global Trade Analysis Project (GTAP) is an international network of researchers (mostly from universities, international organisations, and economic and climate/resource ministries of governments) who conduct quantitative analysis of international economic policy issues, including trade policy, climate policy, and globalisation linkages to inequality and employment.
4. The contribution of IoT to economic growth (2019) is a survey-based study from GSMA Intelligence on the projected productivity gains to be had as a result of firms adopting IoT technologies.
5. Bekkers, E., Sabbadini, G., Koopman, R., & Teh, R. (2018). Long run trends in international trade. The impact of new technologies . Geneva (CH): World Trade Organization.

Looking ahead: critical steps to accelerate the growth of IoT

IoT is at the nexus of wireless connectivity, automation and data-driven applications. Mobile operators, who are at the forefront of the IoT revolution, are keen to make sure that benefits to consumers, businesses and governments are not lost through unnecessary cross-border restrictions.

- **Before imposing any form of data localisation restriction, governments should fully understand the potential impact of such measures on IoT and the wider economy**
- **By restricting the flow of data across borders, governments may inadvertently reduce the direct and indirect gains that IoT may bring**
- **Governments should limit any proposed data localisation restriction to the minimum necessary to achieve essential policy objectives and apply them in ways that minimise restrictions to trade**



To download the full report please visit the GSMA website at:

gsma.com/cross-border-data-flows-the-impact-of-data-localisation-on-iot