



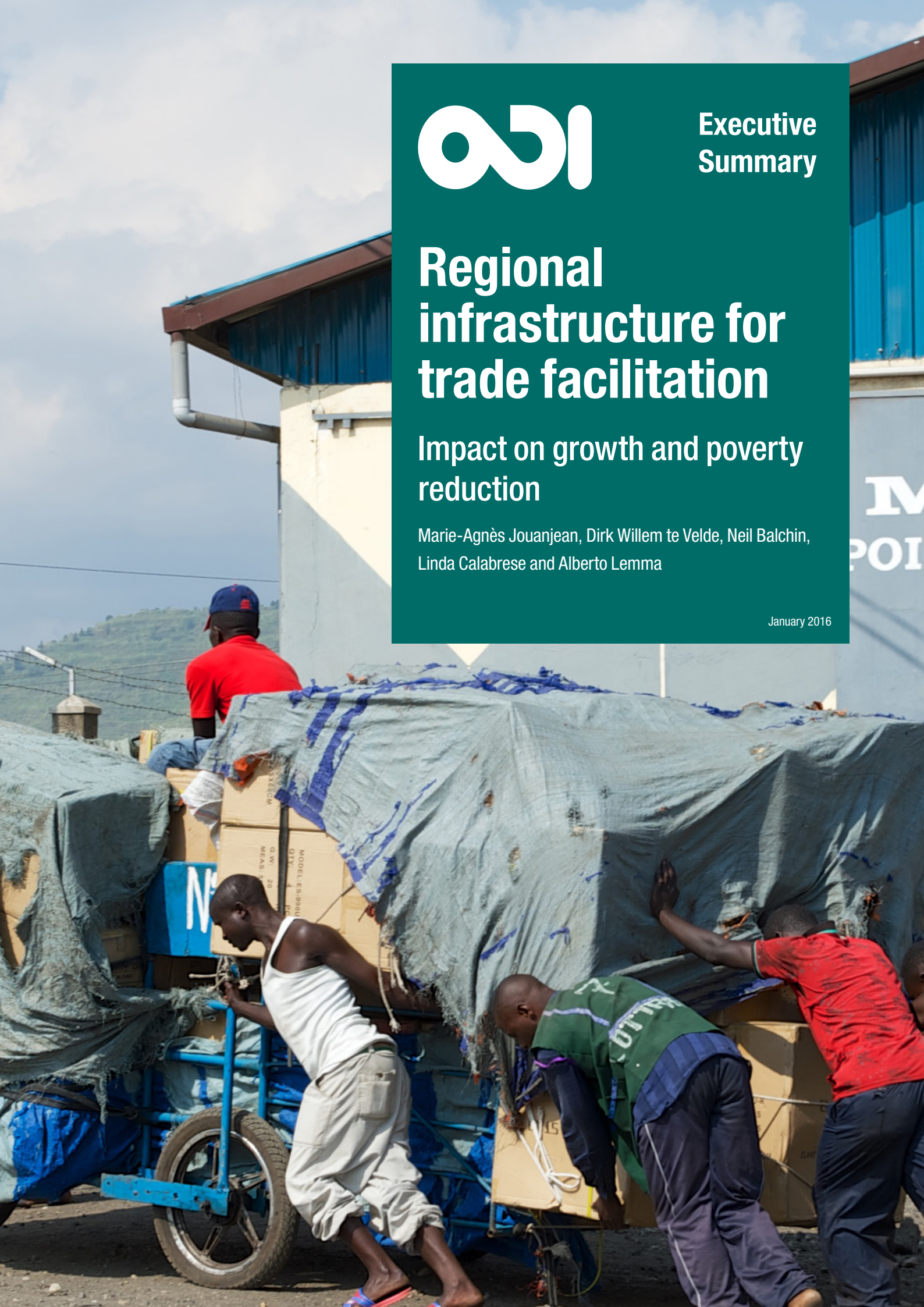
Executive  
Summary

# Regional infrastructure for trade facilitation

Impact on growth and poverty  
reduction

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# Introduction

The expectation by policymakers that regional integration for trade facilitation (RITF) will help growth and poverty reduction is well founded in theory but has not been matched by clear evidence from the evaluation and research communities.<sup>2</sup> The research undertaken for this project contributes to the body of research inspiring better evaluation and policies related to RITF. It unpacks infrastructure distinguishing among different types, such as physical and regulatory infrastructure. In particular, it provides more evidence of the complementarities between both types of infrastructure to ensure pass-through of the benefits of the reduction in trade costs to poor producers and consumers.

The approach used in the report is to provide evidence on the impact of regional infrastructure and associated trade cost reduction on the behaviour, risks and opportunities of economic actors (households, firms) through direct and indirect routes. It does this by creating and using new infrastructure measures; undertaking original surveys and new regressions; and developing and testing a new theory of change.<sup>3</sup>

The report first highlights the relevance of focusing on the regional dimension. The traditional reasons are of course to tackle geographical constraints by bringing together many small economies and landlocked countries. But other reasons justify a focus on the regional dimension. These include the fact that international production networks are often centred around regions. Also, regionally traded goods and their related activities are more employment-intensive than goods traded further away. However, addressing infrastructure (hard and soft) at the regional level is not without challenges. There are a range of vested interests and other political economy considerations in dealing with both hard and soft infrastructure for trade facilitation at the regional level, such as: (i) appropriation of benefits versus costs of investing in hard infrastructure regionally; (ii) appropriation of benefits by intermediaries and competition in logistics services; and (iii) the challenge of addressing non-tariff measures.

The report then explores new evidence following three clusters (summarised in Table 1 below), each of which examines a different dimension of the importance of RITF. Each cluster gathers evidence of pathways of impacts in broad terms and then considers specific examples of impacts on poverty as well as complementary measures that can help ensure the reduction in trade costs benefits and trickles down to the poor.

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<sup>2</sup> For example, a recent Independent Commission for Aid Impact report that evaluated the impact of a UK Department for International Development trade facilitation programme in Southern Africa had very little research to draw on. Choosing to rely on one of the few analyses particularly emphasising potential negative impacts on the poor, and especially one specific *ex-ante* modelling exercise and a handful of interviews, it reached the conclusion that there was not enough proof about the impact of the poverty reduction impact of the programme, and that this impact could potentially be negative.

<sup>3</sup> The background papers include:

Cadot, O., Himbert, A. and Jouanjean, M.-A. (2015) 'Trade Facilitation and Concentration – Evidence from Sub-Saharan Africa'. ODI Report.

De, P. (2015) 'Disentangling transit costs and time in South Asia – Lessons from firms in Bhutan and Nepal importing through Kolkata and Haldia ports'. ODI Report.

Engel, J. and Jouanjean, M.-A. (2015) 'Infrastructure to Improve Market Integration of Smallholders and Address Coordination Failure in Food Staples Value Chains – Lessons from the Kenyan Maize Value Chain'. ODI Report.

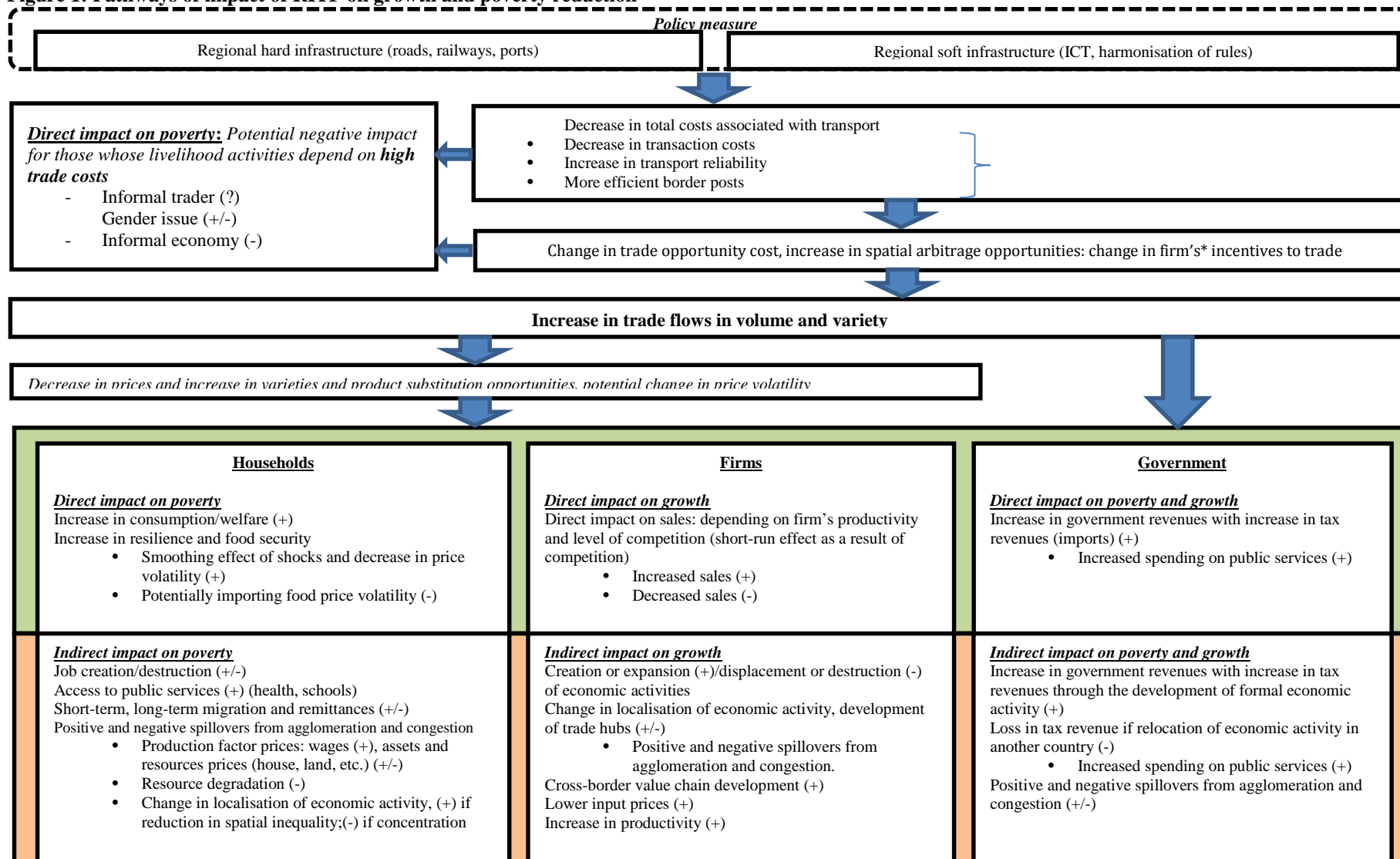
Jouanjean, M.-A., Gachassin, M. and te Velde, D.W. (2015) 'Regional Infrastructure for Trade Facilitation – Impact on Growth and Poverty Reduction – a Literature Survey'. ODI Report.

Tyson, J. (2015) 'Effect of Sub-Saharan African Trade Corridors on Vulnerable Groups'. ODI Report.

Shepherd, B. (2015) 'Infrastructure, Trade Facilitation, and Network Connectivity in Sub-Saharan Africa'. ODI Report.

Te Velde, D.W. (2015) 'Regional Trade and Infrastructure and Firm-level Productivity in Sub-Saharan Africa'. ODI Report.

**Figure 1: Pathways of impact of RITF on growth and poverty reduction**



**Table 1: A typology of research methodology and findings**

Cluster	Channel of impact on growth and poverty reduction
<p><i>Cluster 1</i></p> <p><i>Impact of cross-border infrastructure on economic activity at the border and along trade corridors</i></p>	<p><b>RITF for spatial growth patterns</b></p> <p><b>Measure of RITF:</b> Corridors and LPI</p> <p><b>Channel of impacts:</b> Better RITF affects location of economic activity</p> <p><b>Links to impacts identified in theory of change (on impact and risks):</b> Job creation/destruction (+/-); Access to public services (+) (health, schools); Short-term, long-term migration and remittances (+/-); Positive and negative spillovers from agglomeration and congestion (Production factor prices: wages (+); Assets and resources prices (house, land, etc.) (+/-); Resource degradation (-); Change in localisation of economic activity, (+) if reduction in spatial inequality, (-) if concentration)</p> <p><b>Main likely impact:</b> Reduction in spatial inequality</p> <p><b>Main policies to address risks and increase benefits:</b></p> <ul style="list-style-type: none"> <li>- Developing secondary road networks, ICT infrastructure and health and education infrastructure</li> <li>- Supporting complementary policies to support access to public services</li> </ul>
	<p><b>RITF for job opportunities and livelihoods of informal cross-border economic actors</b></p> <p><b>Measure of RITF:</b> Cross-border infrastructure – OSBPs</p> <p><b>Channel of impacts:</b> New cross-border infrastructure affects informal activities of households at the border</p> <p><b>Links to impacts identified in theory of change (on impact and risks):</b> Informal trader (?); Gender issue (+/-); Informal economy (-)</p> <p><b>Main likely impact:</b> Better conditions for informal traders</p> <p><b>Policies to prevent the risks and increase benefits:</b></p> <ul style="list-style-type: none"> <li>- Taking into account the specificity of informal traders in the conceptualisation of cross-border infrastructure</li> </ul>
<p><i>Cluster 2</i></p> <p><i>RITF for participation in value chains and integration in international production networks</i></p>	<p><b>RITF for GVC integration</b></p> <p><b>Measure of RITF:</b> Five infrastructure and trade facilitation variables</p> <ol style="list-style-type: none"> <li>1. Infrastructure component of LPI</li> <li>2. Liner Shipping Connectivity Index produced by UNCTAD</li> <li>3. World Bank’s Air Connectivity Index</li> <li>4. Road network density from CIA World Factbook</li> <li>5. OECD TFIs</li> </ol> <p><b>Links to impacts identified in theory of change (on impact and risks):</b> Creation or expansion (+)/displacement or destruction (-) of economic activities; Cross-border value chain development (+); Lower input prices (+); Increase in productivity (+); Job creation/destruction (+/-)</p> <p><b>Main likely impact:</b> RITF matters for GVC integration</p> <p><b>Policies to prevent the risks and increase benefits:</b></p> <ul style="list-style-type: none"> <li>- Support for a regional approach to infrastructure development</li> <li>- Complementary training to prepare firms for competition and entry into GVCs</li> </ul>
	<p><b>RITF for smallholder participation in local and regional value chains</b></p> <p><b>Measure of RITF:</b> Provision of warehouses, warehouse services and regulation for the maize value chain</p> <p><b>Links to impacts identified in theory of change (on impact and risks):</b> Increase in consumption/welfare (+); Increase in resilience and food security (+); Smoothing effect of shocks and decrease in price volatility (+)</p> <p><b>Main likely impact:</b> Integration of smallholders in local and regional value chains</p>

*Cluster 3*

*RITF for the productivity of firms and efficiency of logistics services*

**Policies to prevent the risks and increase benefits:**

- Complementary regulatory framework to address coordination failure in the value chain

**RITF for the productivity of firms**

**Measure of RITF:** Regional infrastructure indicators using LPI; regional trade

**Links to impacts identified in theory of change (on impact and risks):** Lower input prices (+); Increase in productivity (+); Job creation/destruction (+/-)

**Main likely impact:** RITF and regional exporting associated with higher firm-level productivity

**Policies to prevent the risks and increase benefits:**

- Support for a regional approach to infrastructure development will have long-lasting effects though exporting and importing
- Complementary policies are required to reduce costs of border crossings but also to reduce the dispersion in the costs faced by different firms for the same gateway

**RITF and the efficiency of logistics services**

**Measure of RITF:** Corridors, transit agreements, logistics services

**Links to impacts identified in theory of change (on impact and risks):** Direct impact on sales (depending on firm's productivity level) Increased sales (+); Decreased sales (-); Creation or expansion (+)/displacement or destruction (-) of economic activities; Cross-border value chain development (+); Job creation/destruction (+/-)

**Main likely impact:** Efficient logistic services are important to ensure that effect is passed through to all economic agents

**Policies to prevent the risks and increase benefits:**

- Addressing localisation barriers preventing efficient regional logistic services

The research undertaken shows investment in RITF enhances economic activity around the border, thereby reducing spatial inequalities within African countries. It also supports the activity of the informal sector at the border, in particular informal traders. But to increase the benefits, the design of cross-border infrastructure should take into account their specific characteristics. There are, however, potentially negative effects on the livelihoods of the most vulnerable, for whom specific initiatives can support adaptation to the new economic environment. RITF also facilitates integration into modern value chains and international production networks. Finally, RITF has positive impacts on the productivity of African firms.

The pass-through of the effect of new hard infrastructure to economic actors occurs only when complementary regulations allow for efficient trade logistic services. In particular, innovative regulations and infrastructure should address coordination failures in modern value chains and tackle obstacles such as localisation barriers to reduce competition in the logistics sector. Taken together, the evidence suggests most of the impacts on growth and poverty reduction are indirect and require an understanding of constraints to connectivity throughout value chains. Hence, policymakers should take greater care of accounting for these in policy decisions and evaluations of RITF.

We summarise the impact and risks of RITF in terms of growth and poverty reduction as well as the poverty implications around three major findings (see below and Table 2).

**1. RITF encourages economic activity around the border, including for most informal traders**

New econometric analysis focusing on African countries finds the facilitation of trade across borders leads to a greater spatial spread of economic activity, suggesting trade facilitation projects are valuable not just for their growth effects but also for their spatial effects and potential reduction in urban pressures.

A new survey around the one-stop-border-post (OSBP) recently built in Busia (on the Kenya–Uganda border) finds mostly beneficial effects (smoother cross-border trading with reduction of harassment, for instance, supporting more cross-border trading), even for directly affected informal traders and households. However, there can be some specific negative short-term impacts for informal workers whose economic activity depends on inefficiencies of border crossing (e.g. a decline in hand-sorted trade).

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In order to increase the benefits, policymakers need to recognise the specific characteristics of informal traders in the design of RITF that have traditionally aimed at facilitating formal trade across borders. Further, they need to implement complementary policies to support and sustain the effects on the reduction of spatial inequalities, such as investment in rural areas and small urban centres to support the participation and access of rural populations to markets and increase access to health and education services to address the needs of vulnerable groups.

## **2. RITF helps firms in African countries connect to modern value chains and in particular global value chains**

New econometric analysis finds a clear positive association between infrastructure for trade facilitation and connectivity to international production networks, particularly in textiles and clothing. There is a strong positive association between infrastructure and trade facilitation improvements in neighbouring countries and greater value chain connectivity at home. It is, therefore, not just what a country does that matters for its connectivity, but also what its neighbours do.

Recognising this new evidence, policymakers should improve infrastructure and trade facilitation performance, for instance through implementation of the World Trade Organization Agreement on Trade Facilitation. They should also adopt a regional approach to infrastructure development, consistent with the recent emphasis on economic corridors.

A new case study example in Kenya illustrates how warehouses are specific examples of infrastructure with great potential to unlock coordination failures in the development of inclusive local and regional modern value chains. This case highlights the importance of treading the final mile for poverty reduction and recognising the complementarity within hard infrastructure (between roads and warehouses) and between hard and soft infrastructure (warehouses and complementary regulations such as standards and laws stating contractual responsibilities) to support the participation of poor producers in modern national and regional value chains.

## **3. RITF has long-lasting effects through productivity of firms**

New empirical analysis based on firm-level data suggests firms in countries with better regional infrastructure (reflected in the quality of infrastructure in their neighbours) also have relatively higher productivity. The productivity-enhancing effects of regional infrastructure are shown to come through importing material inputs and supplies, but also through exporting. The empirical analysis based on firm-level panel data in Malawi, Rwanda, Senegal and South Africa shows regional exporters not only have higher productivity than other non-exporting firms (the average productivity gap between regional exporters and other firms ranges from 18% in Malawi to 60% in Senegal and 72% in Rwanda) but also experience greater productivity growth (reflected in faster growth in labour productivity in both Malawi and Rwanda) and more rapid total factor productivity growth in Senegal. Regional exporters put greater emphasis on technology, which leads to higher productivity and better product quality.

We find evidence of significant variation in transaction costs associated with the use of regional infrastructure. We show, using data from the World Bank's Enterprise Surveys and a new case study in Bhutan, India and Nepal, that clearing costs can vary markedly between border crossings, but also across different types of exporters using the same crossing. The implication of these findings is that policymakers should take into account the role of the soft regional infrastructure environment in determining border costs in addition to hard regional infrastructure when investing in upgrading regional infrastructure.

Ensuring investments in regional infrastructure allows small producers and traders to access regional markets and integrate into modern value chains. But it also requires institutions and regulations enabling transparent and competitive domestic and regionally integrated services markets. The report also lists a range of barriers that hamper the efficiency of trade logistics services, which in turn reduces the impact of new hard infrastructure, in particular in the context of transit agreements. Addressing those barriers (from licensing and service restrictions to labour regulations) is essential to make sure the reduction in trade costs benefits all economic actors, from firms (through lower export and import costs and increases in variety) to consumers (through a reduction in prices and increases in variety).

Overall, the risks for the poor are not very different from the risks introduced by trade liberalisation. The theory of change clearly highlighted these potential impacts. However, infrastructure investment completed by a specific support and regulatory environment is likely to unlock opportunities in a way trade liberalisation cannot. Therefore, addressing infrastructure and conceptualising complementary policies at the regional level can potentially decrease negative impacts and increase efficiency compared with a country acting on its own. Coordination for investments in RITF is crucial in amplifying the positive benefits.

In particular, to secure a poverty reduction impact, the report also highlights the need for investments in specific types of infrastructure able to open up cross-border market opportunities for small-scale producers in lagging regions. Such infrastructure should enable connection to regional corridors. It can include consolidation facilities (e.g. warehouses), border markets or logistics platforms to facilitate market exchanges and minimise post-harvest losses, as well as dedicated channels and procedures facilitating small-scale cross-border trade flows. These types of interventions would tackle the major sources of costs for small-scale traders in areas with thin economic densities.

**Table 2: Summarising the new evidence of regional infrastructure on growth and poverty reduction**

	Border activity (Cluster 1)	Value chain integration (Cluster 2)	Efficiency of customs and firm productivity (Cluster 3)
Evidence on impact	<p>Positive impact through influence on the location of economic activity (reduction in spatial inequality in regions close to the border).</p> <p>Positive impact on informal workers and traders with better work conditions and increased opportunities.</p>	<p>Regional infrastructure facilitates value chain integration.</p> <p>Warehouses and warehouse services illustrate the potential of complementary infrastructure to address coordination failures. Allow smallholder participation in modern value chains and let them ‘move up’ and capture margins previously caught by other players.</p>	<p>Efficient regional infrastructure and customs help regional exporting and importing. They also matter for domestic firms’ productivity.</p> <p>Existence of a plethora of barriers to efficient logistic services reduces pass-through of the reduction of trade costs to economic actors throughout the chain.</p>
Risk to the poor	<p>Might be no impact or even a reversal of benefits without the development of secondary road networks, ICT infrastructure and health and education infrastructure.</p> <p>Some informal workers can lose out. Also potentially no or negative impact if the specificity of informal traders are not considered in the design and implementation phases.</p>	<p>No capacity for small firms to access the market and enter value chains without supporting services.</p>	<p>Import competition and regional export opportunities help those firms that can respond.</p> <p>There will be no impacts from the reduction in trade costs from RITF if it does not pass through to all economic actors and in particular the poor. Regulation preventing efficient logistic services can create rents.</p>
Policies to raise benefits to the poor	<p>Recognise specific characteristics of informal trading.</p> <p>Complementary infrastructure and policies to cover the ‘final mile’ with secondary road networks and transport services, ICT infrastructure and health and education infrastructure to sustainably reduce spatial inequalities.</p>	<p>Complementary policies (e.g. regulatory framework) and complementary services to address coordination failure and integrate small firms in the value chain.</p>	<p>Addressing barriers to entry and in particular localisation barriers decreasing the efficiency of logistic services.</p> <p>Find more efficient transit mechanisms for land locked countries.</p>



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# Policy implications

What can policy do to improve the impact of regional infrastructure for growth and poverty reduction?

The research suggests RITF is good for growth and productivity, but there are several ways in which policy can enhance these effects:

- Policy should focus not only on the quality of regional hard infrastructure, such as roads and ports, but also on other factors such as soft infrastructure, to increase transparency and the efficiency of trade-related services for all firms. In particular, it should focus on creating innovative regulations addressing coordination failure in value chains.
- Policy should also remove barriers to efficiency of trade logistics services, in particular for transit, such as licensing and service restrictions, restrictions on the employment of labour, limitations on access to certain infrastructure facilities, cabotage restrictions, cargo reservation schemes and third country rules, or ownership and investment regulations.

Policy can also improve the impact of RITP for the poorest and reduce the risks they may face:

- Policy needs to help sustain the reduction in spatial inequalities from RITF by supplying complementary infrastructure such as rural feeder roads, but also health and education services. This could foster the development of new hubs of economic activity.
- It is important to design temporary programmes that could support those affected negatively by OSBPs and help them change to other types of activities.
- Better integration into international production networks is welcome, but complementary policy is needed to give smaller firms the opportunity to participate, directly or indirectly.



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Cover photo: TradeMark East Africa, Men pushing a cart full of goods that have been cleared from the Magerwa facility in Gisenyi town.

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