

Role of Quality Infrastructure in Economic Development

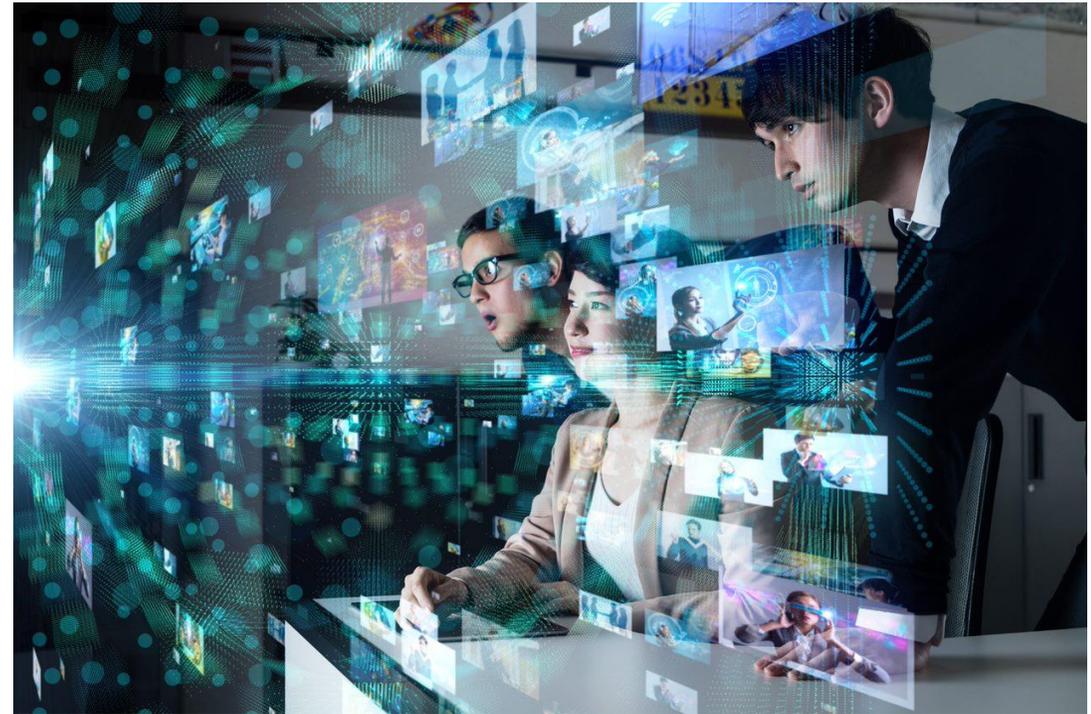
**26th Meeting of the General Conference
on Weights and Measures**

Andrei Mikhnev
World Bank Group
Versailles, November 13, 2018

Linking Quality Infrastructure to the Economic Development Agenda

A conducive infrastructure that assures the quality of products and services is a critical enabler for firms to access and compete in domestic and foreign markets, therefore broadening their trade and investment opportunities and boosting their productivity and innovation.

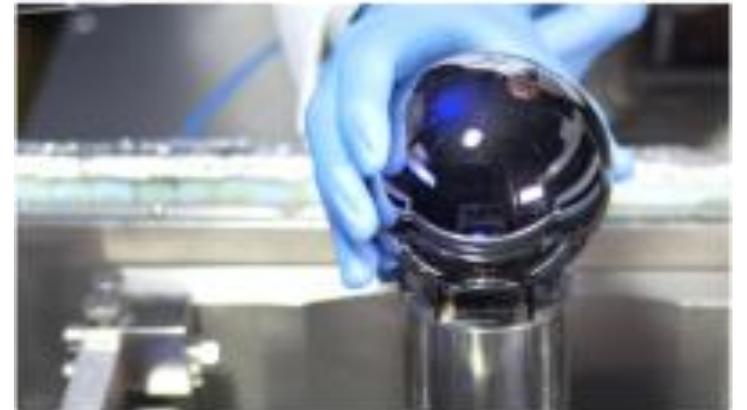
A modern quality infrastructure serves the needs of governments, businesses, and consumers.



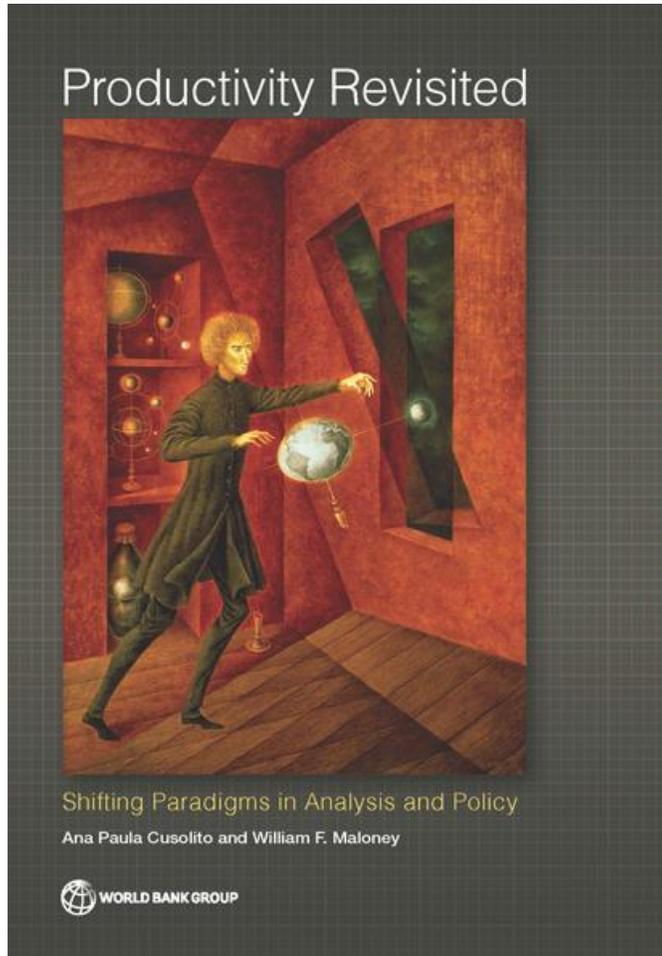
Understanding Quality Infrastructure

The Quality Infrastructure (QI) denotes the ecosystem of public and private institutions together with the policies, relevant legal and regulatory framework, and practices needed to support and enhance the quality, safety and environmental soundness of goods, services, and processes.

QI relies on metrology, standardization, accreditation, conformity assessment, and market surveillance.



Quality Infrastructure: Productivity

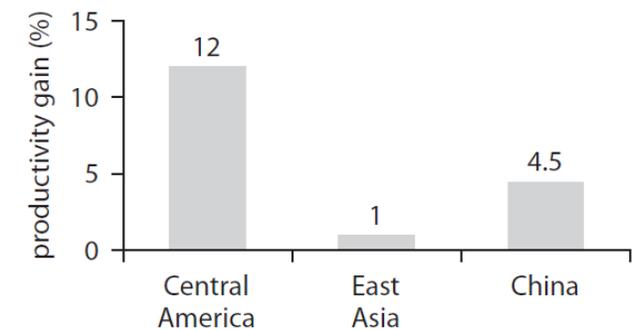


Policies to improve firm performance shall focus on the firms capabilities for upgrading the quality of their outputs and the cultivation of demand for higher quality. Over the long run, raising product quality and an affordable access to quality assurance services may increase a firm's productivity.

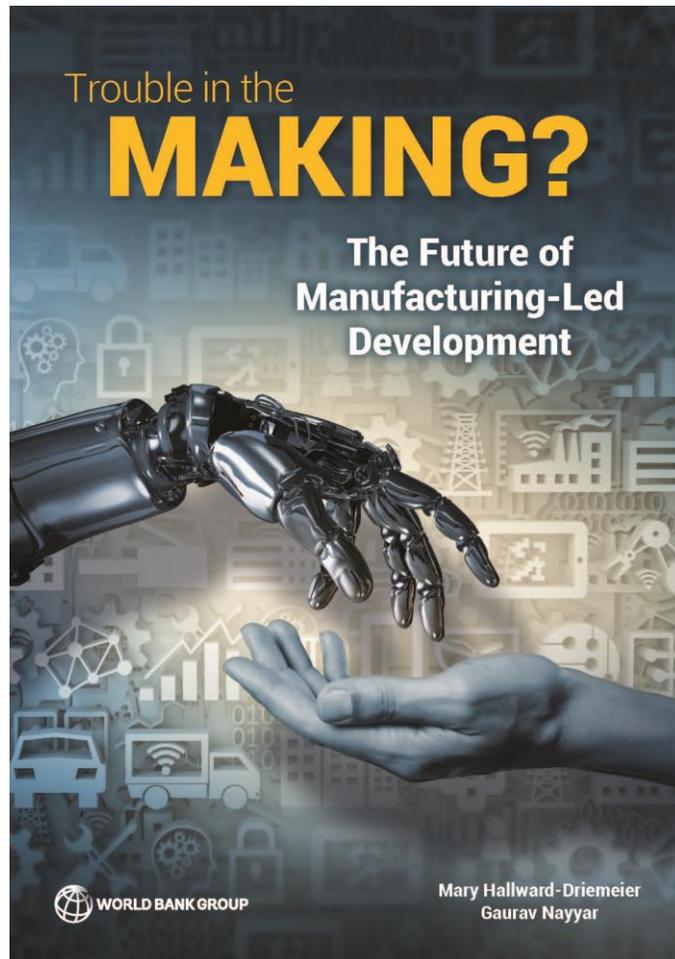
A firm's ability to demonstrate quality and safety of goods and services, and to comply with international standards, is often necessary to enter desirable export markets. Demonstrating such compliance requires a sound quality infrastructure (QI) ecosystem.

Standards lead to economies of scale, allowing suppliers to achieve Lower costs per unit by producing large, homogeneous batches of products.

Average Productivity Gains Due to Adoption of Quality Standards



Quality Infrastructure: Industrial Development



“...rather than aiming to produce a product per se, the attention should be on expanding the activities that deliver **the desirable characteristics...**”

For the manufacturing industry, it is more urgent than ever to meet this standardization challenge.

The ability to meet international standards has affected developing countries’ opportunities to access export markets.

With more complex products and processes, improving quality infrastructure (QI) systems to certify quality standards will become arguably more important than before to facilitate export opportunities. If QI requirements are set too high, they function as nontariff barriers to trade and development.

<https://openknowledge.worldbank.org/handle/10986/27946>

Quality Infrastructure: Innovation

The Innovation Paradox



Developing-Country Capabilities and the Unrealized Promise of Technological Catch-Up

Xavier Cirera and William F. Maloney



“...countries unable to innovate in their present industries are unlikely to do so in new industries”.

Investments in innovation per se does not help innovative products succeed without the existence of underlining conditions for innovation, including the quality infrastructure.

The use of standards for innovation is a central element of the QI system. Better-quality firms tend to have greater success in meeting the more stringent international standards. Having these capabilities is key for competing in quality in world markets.

Standards spur and disseminate innovation, solve coordination failures, and facilitate the development of profitable networks.

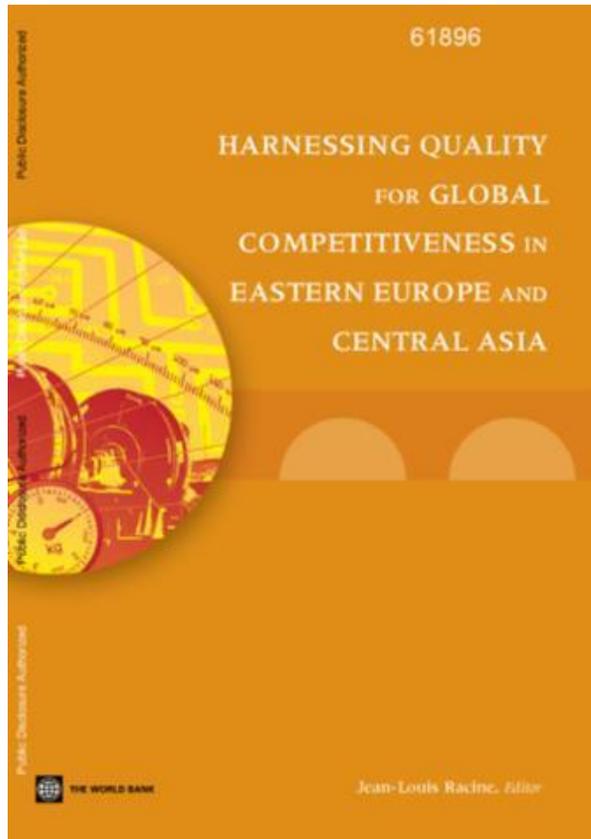
Conformity assessments also facilitate innovation, enabling firms to test new products before launching them.

Quality Infrastructure: Trade and Competitiveness

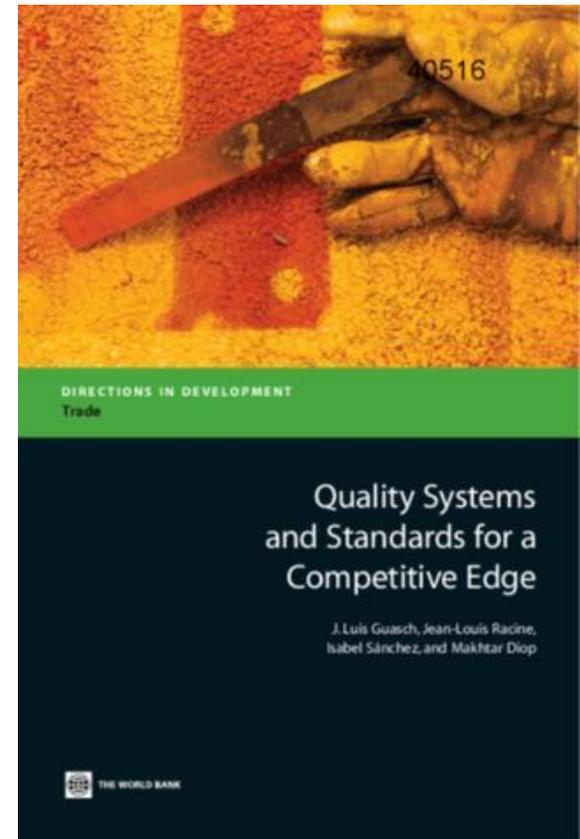
Effective national quality infrastructure (NQI) consistent with internationally accepted and required practices, can improve trade and access to markets and promote competitiveness by helping firms produce goods and services that meet the quality specifications of global markets.

Countries can support business competitiveness by diffusing standards, streamlining technical regulations, and harmonizing them with regional and international trade partners.

Developing a NQI involves not only helping firms improving their quality, but also signaling this quality with standards compliance. This requires domestic infrastructure for conformity assessment; otherwise, firms are forced to be certified in third countries, increasing significantly the sunk costs of exporting.



<https://openknowledge.worldbank.org/handle/10986/2305>



<https://openknowledge.worldbank.org/handle/10986/6768>

Quality Infrastructure: Impact

Increase Market Access	Improve Firm's Productivity	Protect Public Good
<ul style="list-style-type: none">• Grow exports• Increase product diversification• Improve investment opportunities• Benefit from trade agreements	<ul style="list-style-type: none">• Reduce cost of trade and cost of doing business• Benefit from economies of scale due to improved working methods and standardization• Enhance innovation and technology transfer	<ul style="list-style-type: none">• Public health and safety• Consumer protection• Social protections and labor conditions• Environmental protection

- 44% of firms had to conduct significant duplication of testing procedures to meet foreign requirements after domestic requirements have been met;
- 68% of firms cited testing and certification costs as an important reason for not exporting.
- Standards reform contributed to 13% of growth in labor productivity in the UK.

Quality Infrastructure: Reform Toolkit



<http://www.worldbank.org/qi>

- 1 • Overview and Quick Start Guide
- 2 • Importance of QI Reforms and Demand Assessment
- 3 • Detailed Description of Good QI Practices
- 4 • Rapid Diagnostic Tool
- 5 • Comprehensive Diagnostic Tool
- 6 • How to Reform: Interventions and Approaches
- 7 • Challenges of QI Reform
- 8 • Impact of QI Reforms
- 9 • Country Case Studies

Quality Infrastructure: Reform Support

1. **QI Diagnostic and Gap Assessment (supply and demand).**
2. **Reforming QI legal and institutional framework including capacity building.**
3. **Developing competent quality assurance service providers (national or regional).**
4. **Streamlining technical regulations and standards and harmonizing with target markets.**
5. **Complying with industry standards through FDI and GVC.**
6. **Enabling innovation and improving quality of domestic products to meet standards including dissemination of information and awareness raising.**

Thank You

