

# SUSTAINING LONG-RUN GROWTH AND MACROECONOMIC STABILITY IN LICs: *THE ROLE OF STRUCTURAL TRANSFORMATION AND DIVERSIFICATION*



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*Japan*

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The team also comprises Chris Papageorgiou (lead), Giang Ho, Ke Wang, Lisa Kolovich, Camelia Minoiu, Alun Thomas, Alex Pitt (all IMF), Nikola Spatafora (World bank) and Christian Henn (WTO), under the overall guidance of Seán Nolan and Catherine Pattillo (IMF).

## Motivation

- LICs have historically been heavily dependent on a narrow range of traditional primary products and on few export markets.
- There is limited analysis of what aspects of diversification are important.
- Key questions:
  - What is the state of diversification in LICs?
  - What is the impact on growth and volatility?
  - What are the drivers of diversification in LICs and its implication on policy ?

# Presentation Outline

Stylized Facts  
on  
Diversification

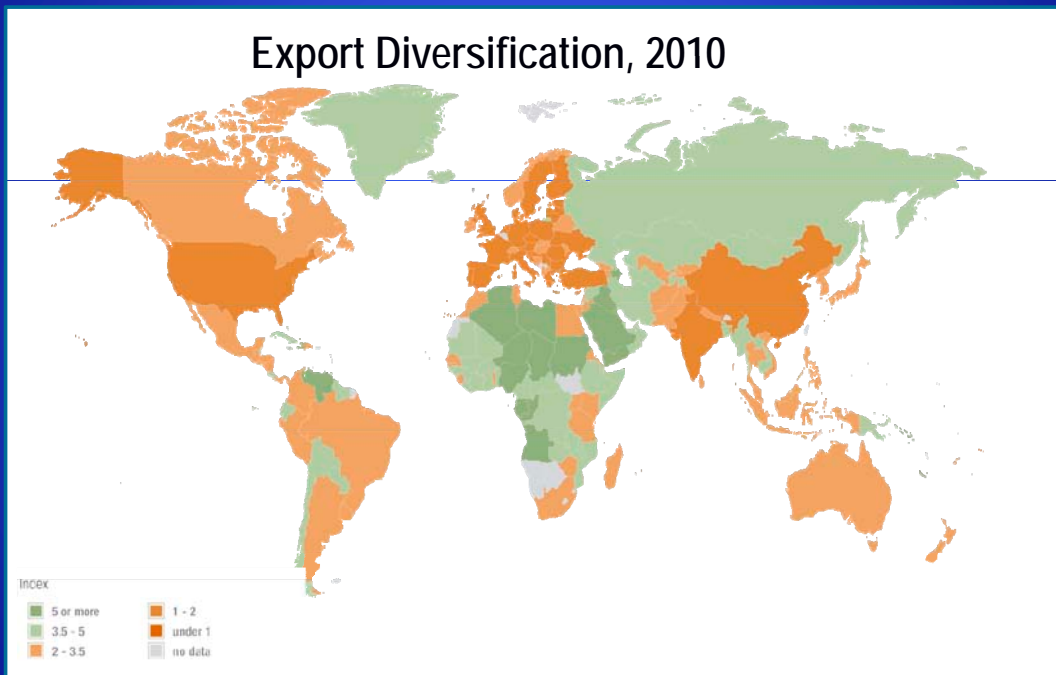
Link with  
growth and  
volatility

Policy  
Implications

Accessing the  
Toolkit

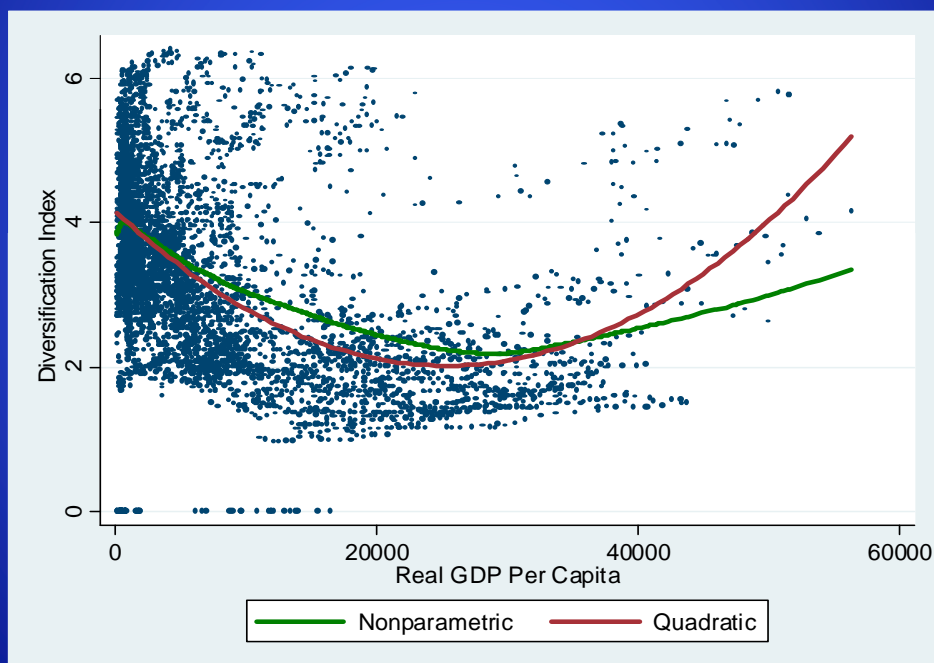
## Stylized Facts: **Export Diversification**

# Snapshot of Export Diversification

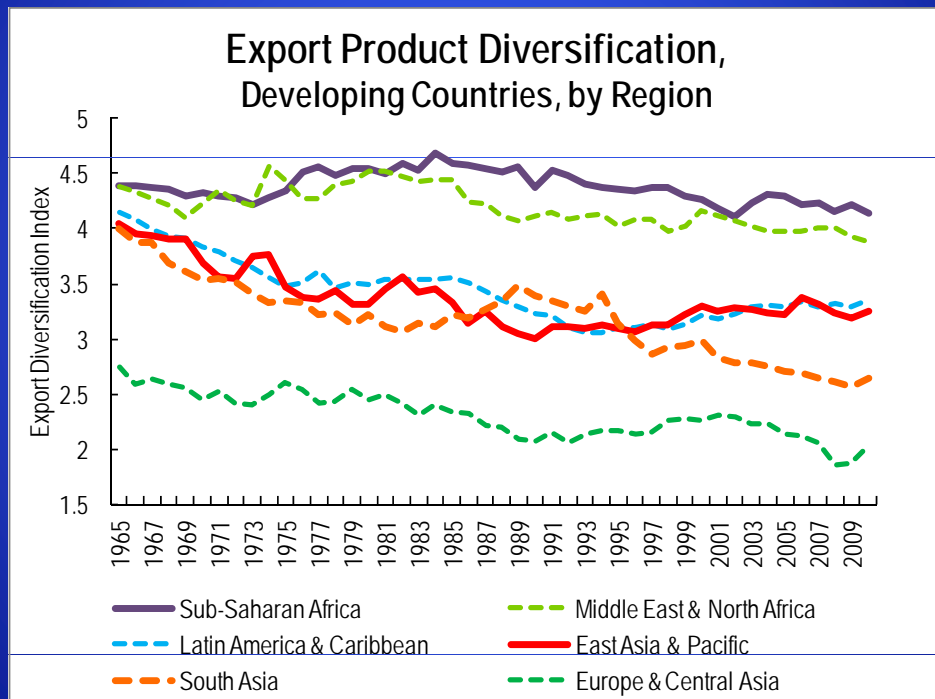


# Export Diversification vs. GDP

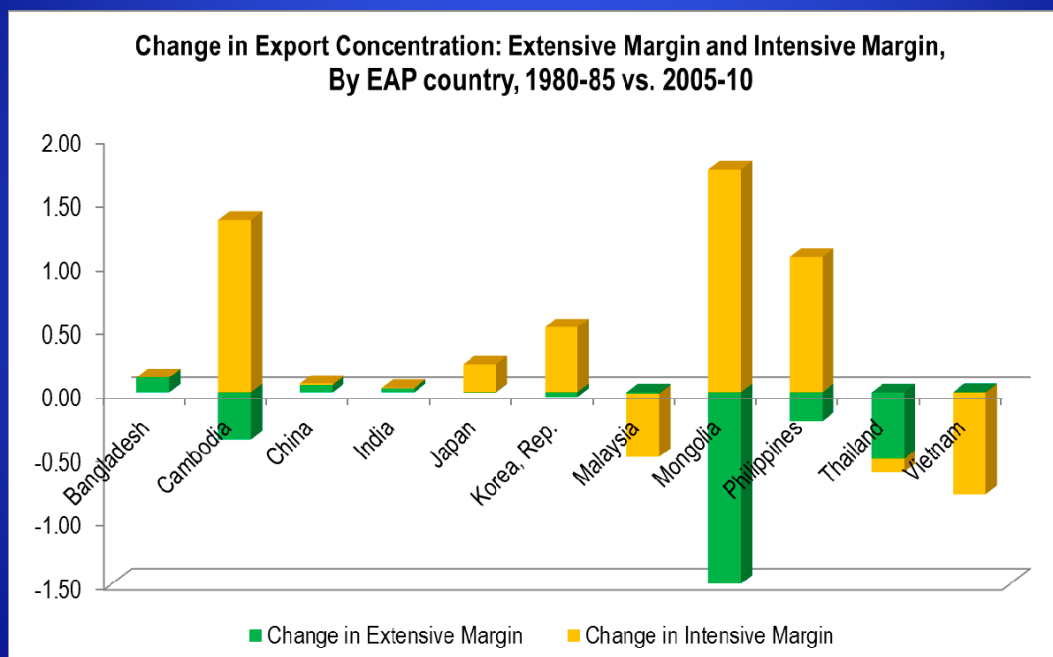
Export Diversification and Concentration, 1962-2010



# Export Diversification by Region

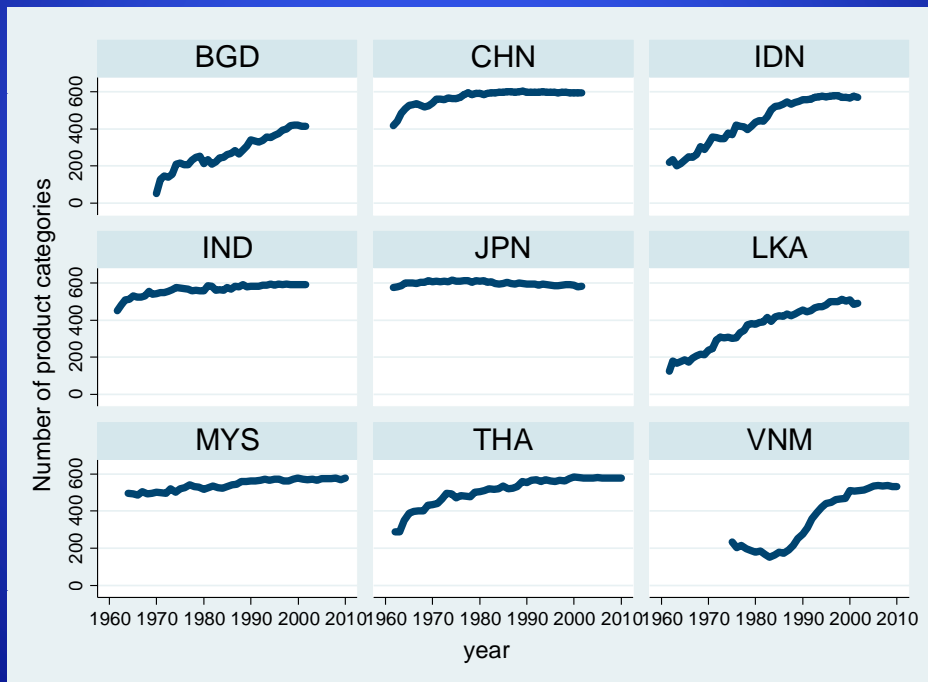


# Export Concentration in Asia: Extensive Margin and Intensive Margin



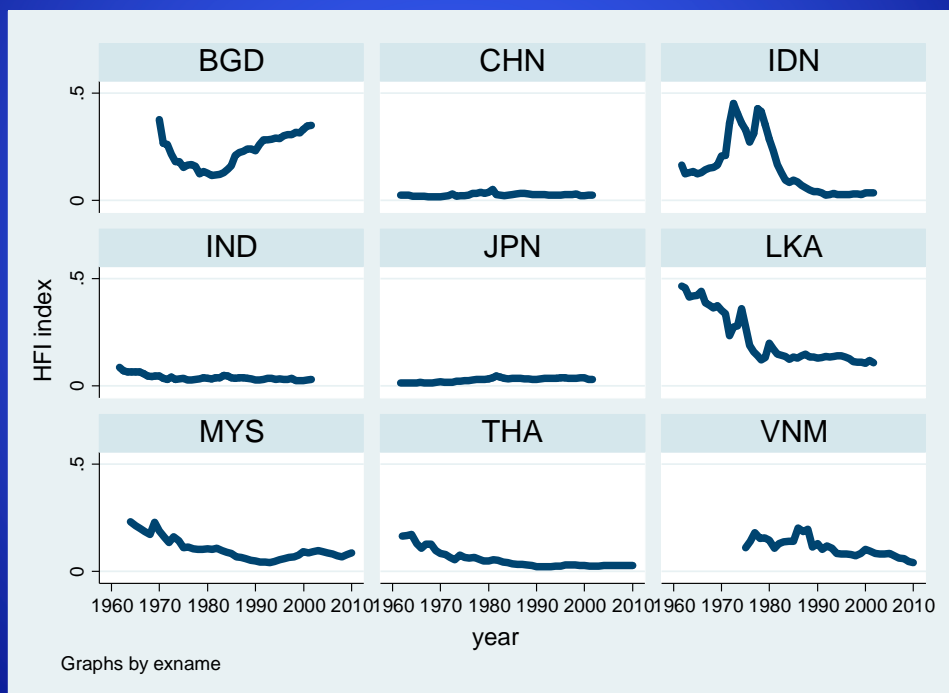
# A Closer Look at the Extensive Margin

Number of Export Product Categories, by Country



# Another measure of Export Diversification

Herfindahl Index, by Country

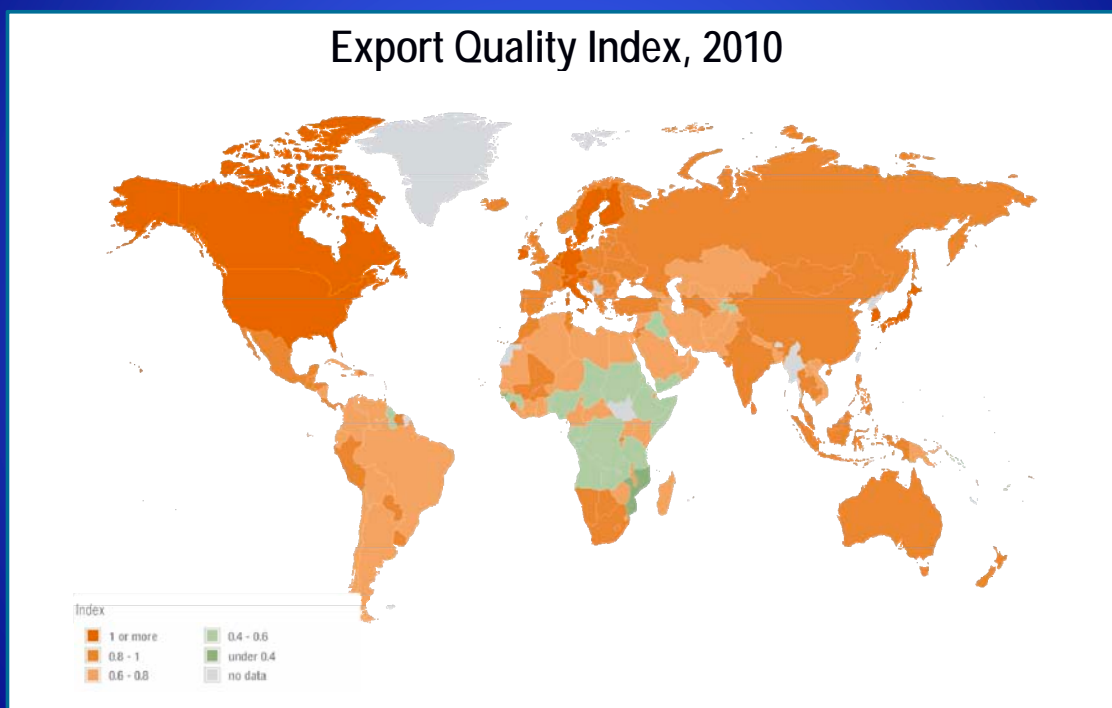


# Stylized Facts

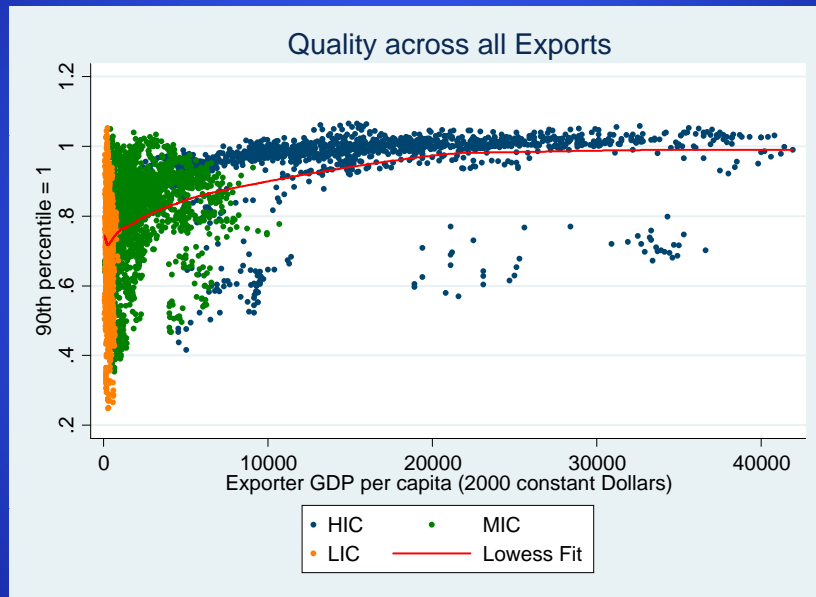
## Quality Upgrading

## Snapshot of Quality Upgrading

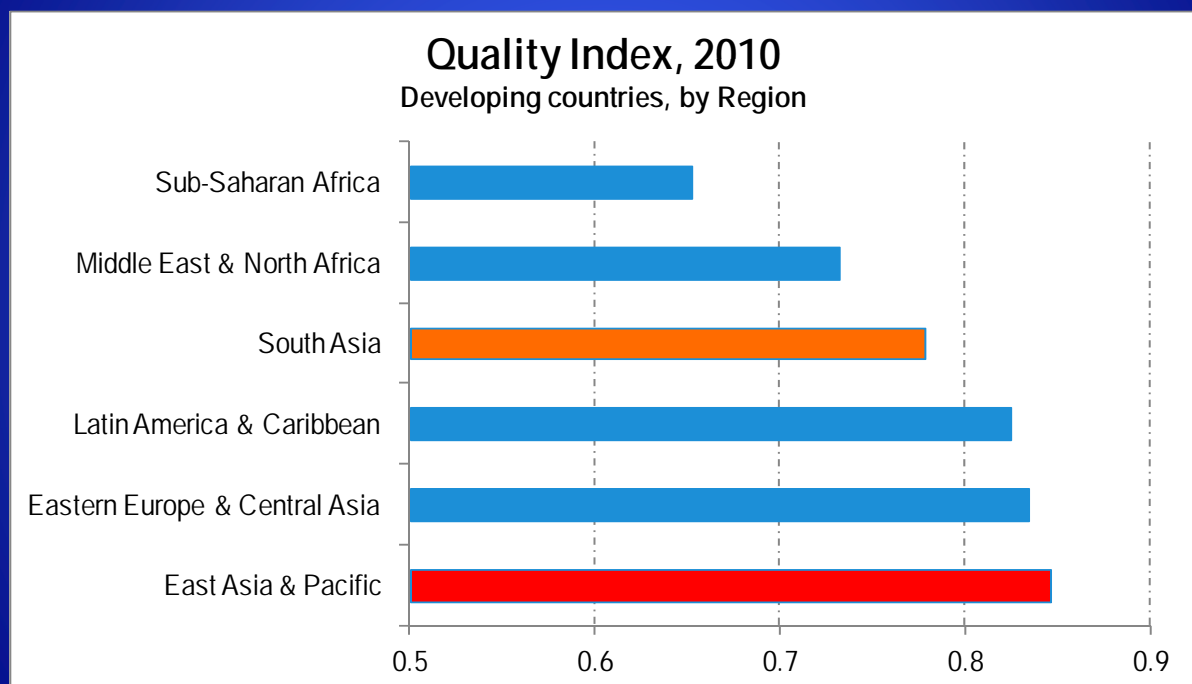
Export Quality Index, 2010



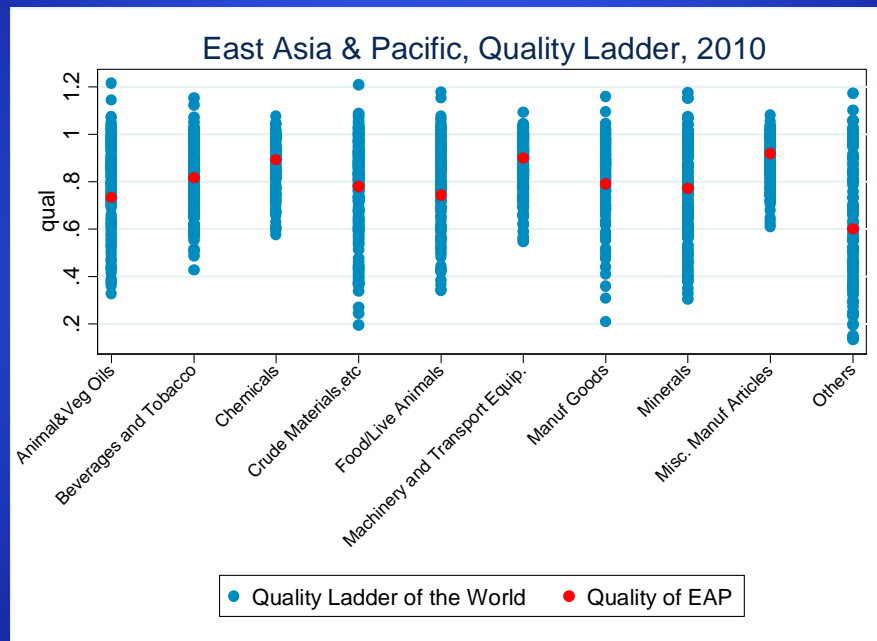
# Export Quality and GDP



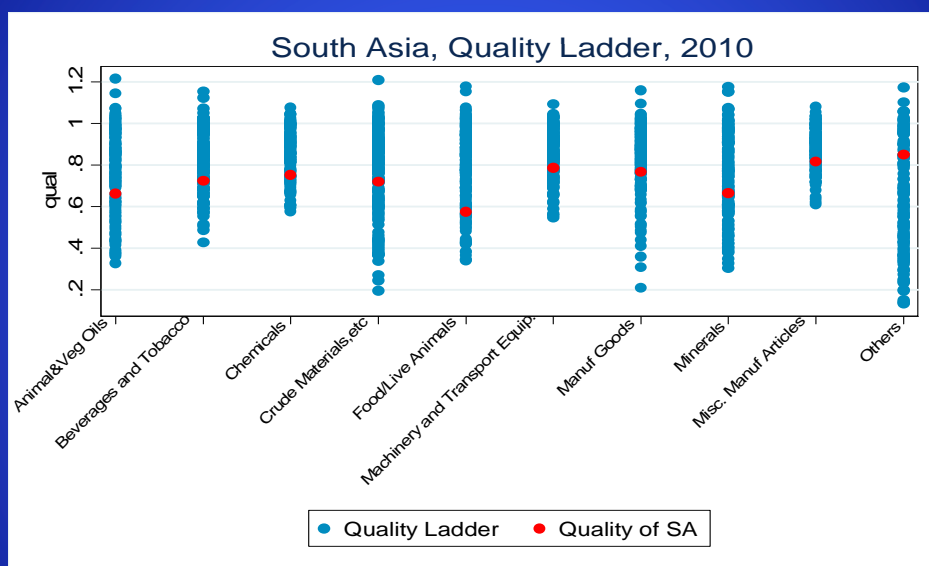
# Quality Upgrading in Asia, 2010



# Quality Upgrading in East Asia & Pacific



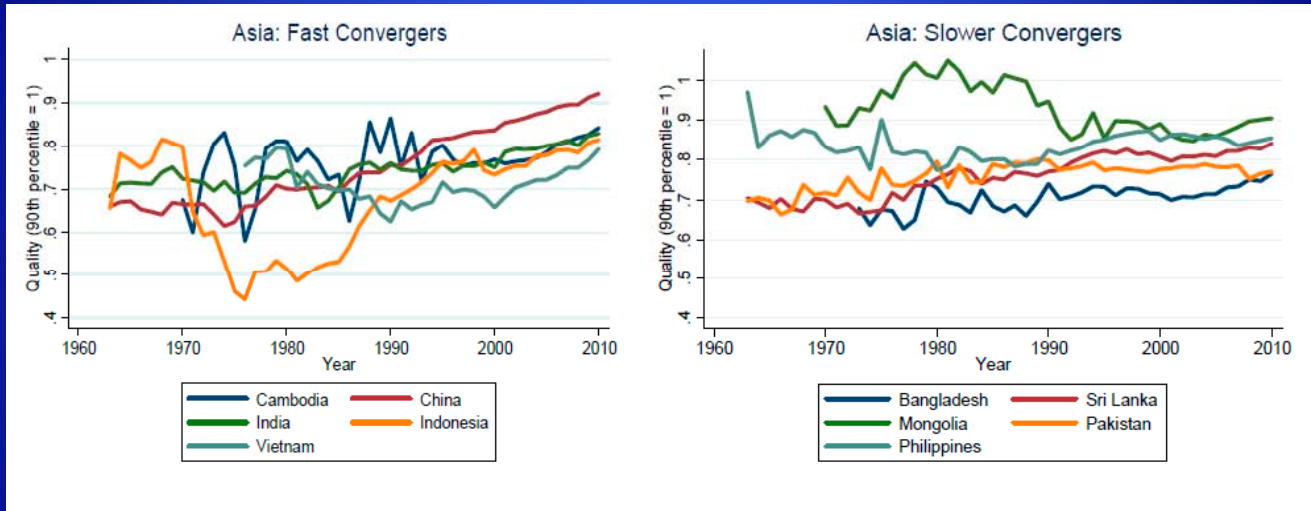
# Quality Upgrading in South Asia





# Quality Upgrading in Asia

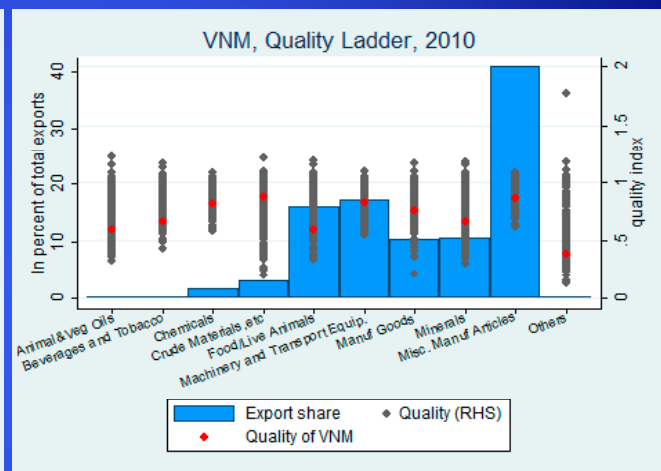
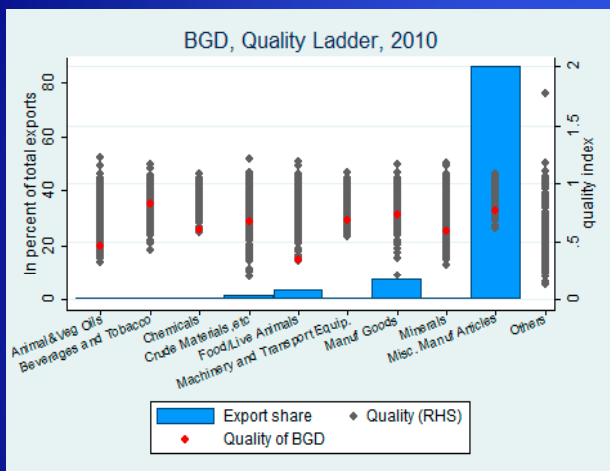
Considerable cross-country heterogeneity



Note: Countries with quality convergence of at least 0.05 between the 1994-96 and 2008-10 periods are assigned to the fast converger group.



# Quality Upgrading in Selected Countries

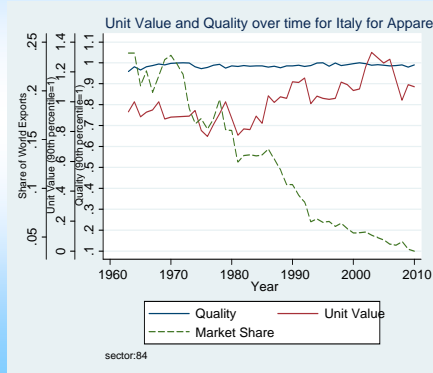


# Quality Upgrading in Selected Countries

## Italy Apparel Exports

SITC 84

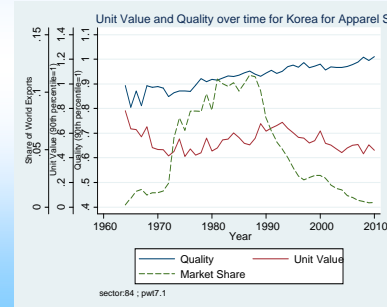
➤ High quality, but rising prices helped undermined market share.



## Korea Apparel Exports

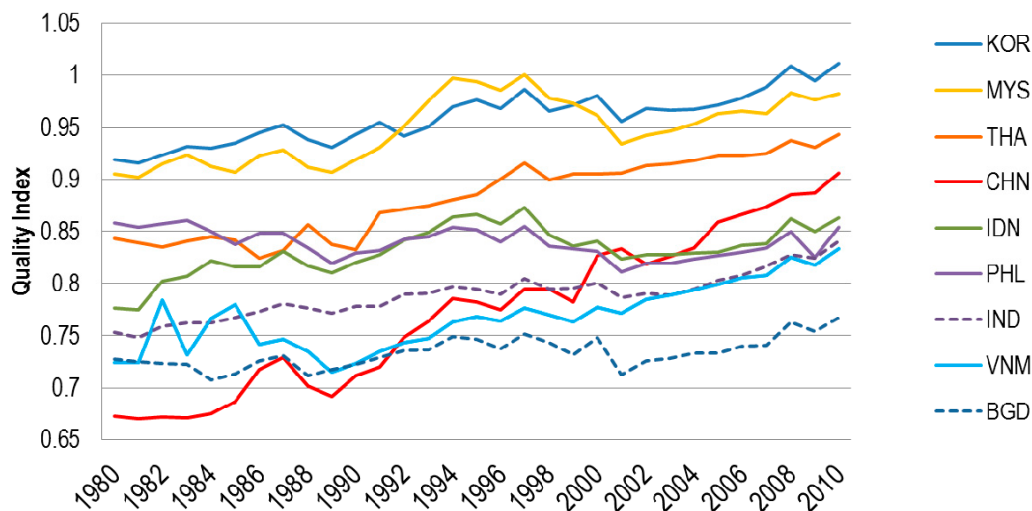
SITC 84

➤ Quality has concluded convergence to world frontier, as economy diversified away from apparel.



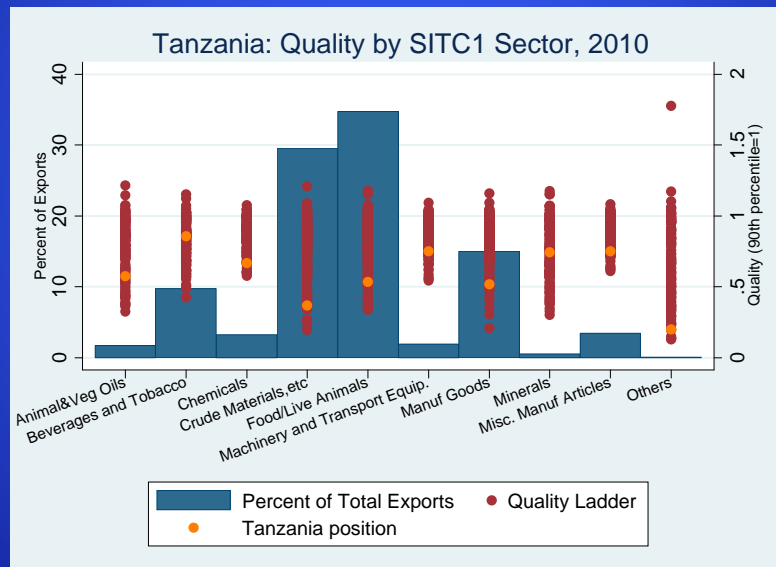
# Quality of Apparel Exports in Asia

Quality of Apparel Exports, by Country  
(SITC 2 digit level, sector 84)



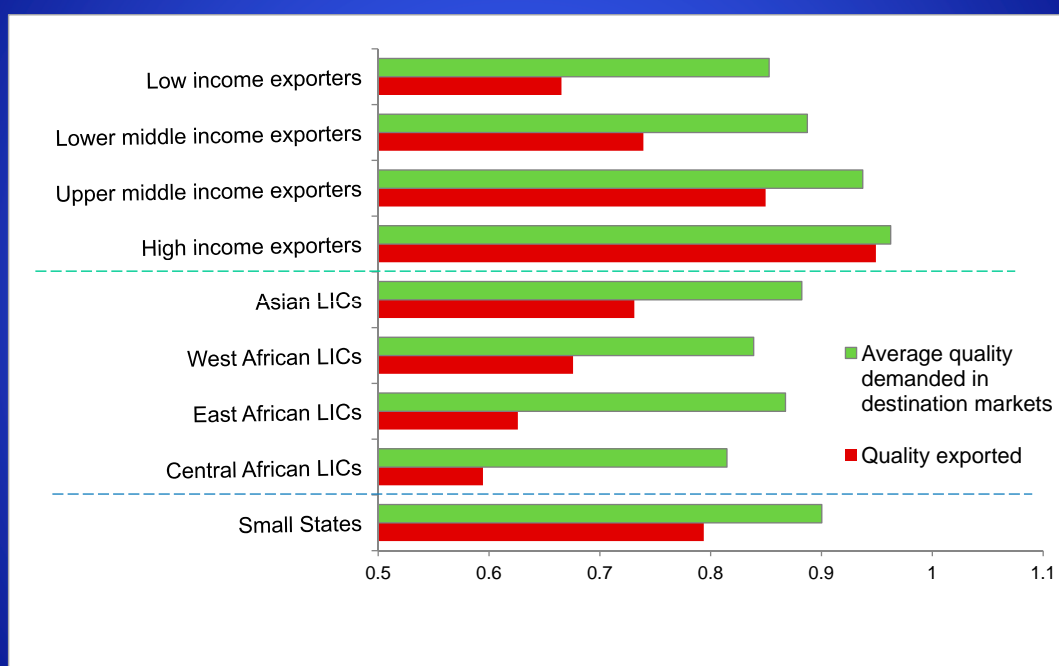
# Potential Quality and Horizontal Diversification

## Tanzania



# Potential for quality upgrading

Destination markets are no constraint for LICs



# Summary: Patterns and Facts

## Export diversification

- Higher per capita income is associated with greater export diversification.
- Significant heterogeneity in diversification even after controlling for income.
- Since mid-1990s, LICs have progressed in diversifying export products and partners.

## Quality Upgrading

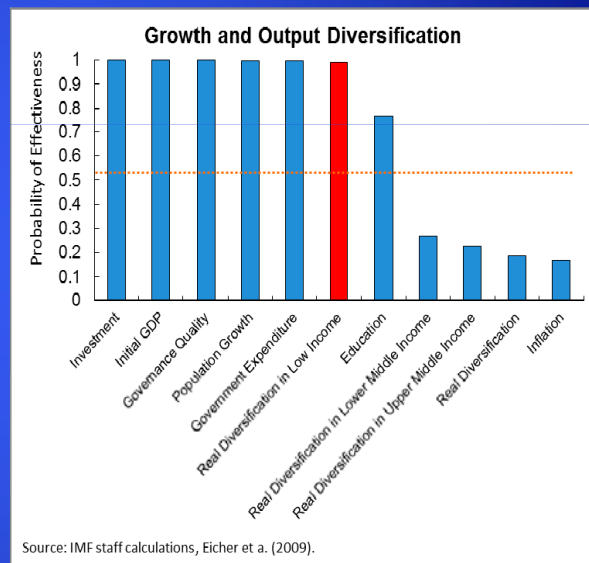
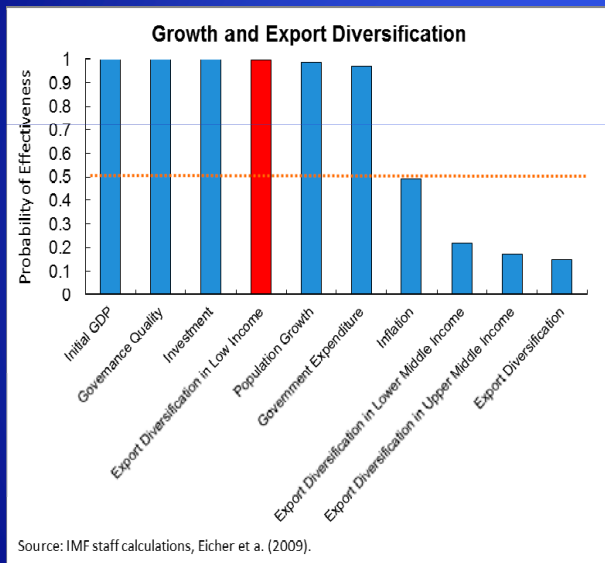
- LICs are lower on sectoral quality ladders implying strong potential for quality upgrading.
- Quality upgrading opportunities exist in manufacturing but also in agriculture.

## Evidence from individual countries

- There is no universal trajectory for structural transformation and diversification.

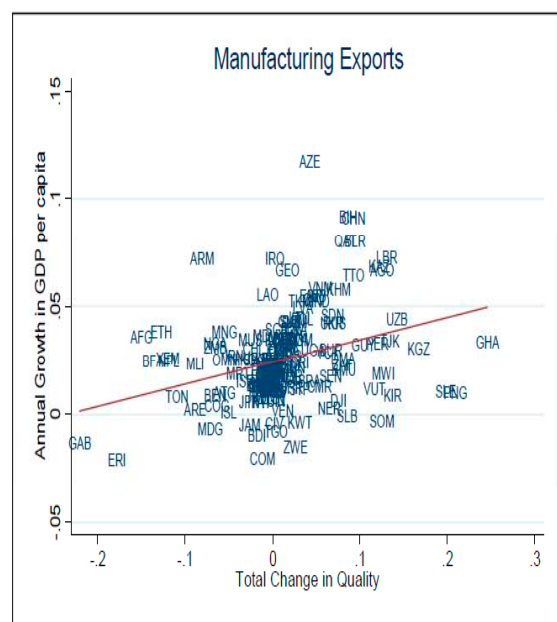
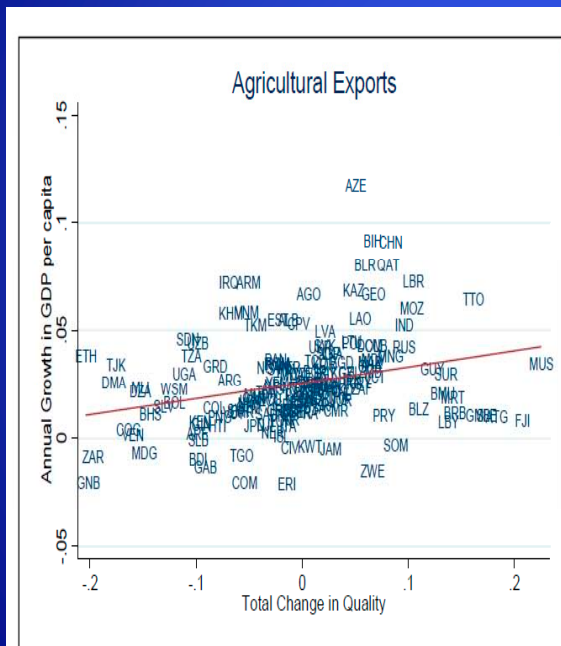
Link with Growth and Volatility

# Probability of Effectiveness for Drivers of Growth



# Quality Upgrading and Growth

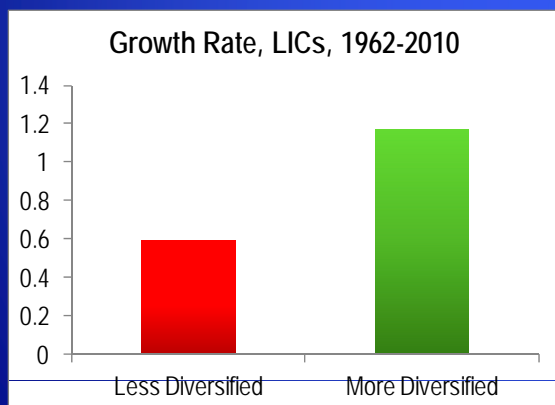
Quality Upgrading and GDP per Capita Growth, 1995-2010



# Diversification, Growth and Stability

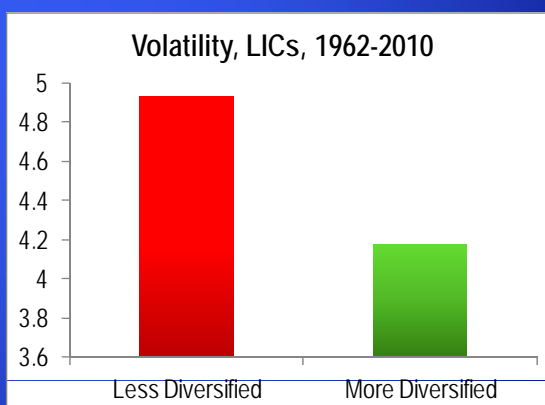
## Growth

- Robust relationship between diversification and growth in LICs.



## Volatility

- Diversification is also associated with a reduction in output volatility.



Note: "Less Diversified" indicates countries with diversification level below the 30<sup>th</sup> percentile of all LICs; "More Diversified" indicates the countries with diversification level above the 70<sup>th</sup> percentile of all LICs.

## Drivers

### Economic Fundamentals

Education

Institutional and regulatory environment

Financial deepening

Investment in Infrastructure

Proximity to markets

### Macroeconomic Policies

Trade liberalization

Agricultural reforms

Banking sector reforms

Competitiveness through reduction in distortions

# Policy Views

- Development strategies in LICs should involve diversification as it is conducive to faster growth and lower output volatility.
- Development policies in LICs should include rather than abandon agriculture. Within agriculture there is significant scope for entry into new products and quality upgrading .
- While recognizing that there is no one size fits all approach, successful diversification is typically underpinned by reforms that are general in scope.

# Diversification Toolkit

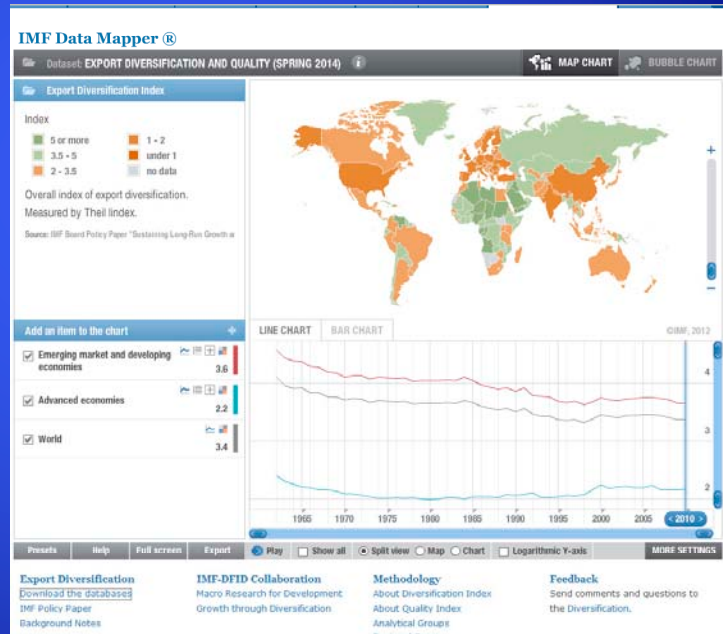
- The toolkit contains two main databases:
  - **Export Diversification Database**
  - **Export Quality Database**
- The data covers 187 countries and at four digits of disaggregation 625 sectors.
- Time coverage: 1962-2010.

The main diversification toolkit work team comprises Ke Wang, Chris Papageorgiou, Qin Liu, Bindu Napa, and Christopher Coakley (IMF).

# Diversification Toolkit: IMF Data Mapper

➤ <http://www.imf.org/external/datamapper/index.php?db=SPRLU>

- For main diversification and quality indicators
- Interactive tool for heat map and charts



# Diversification Toolkit: IMF Toolkit Website

<https://www.imf.org/external/np/res/dfidimf/diversification.htm>

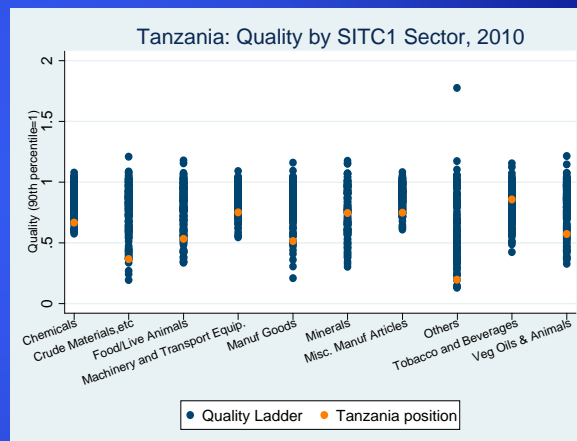
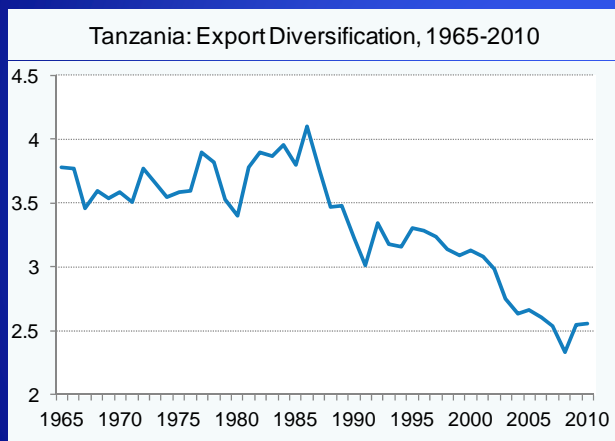
- To download the entire databases
- Relevant Links

The screenshot shows the IMF Toolkit Website page titled 'The Export Diversification and Quality Databases (Spring 2014)'. The page is part of the 'MACRO RESEARCH FOR DEVELOPMENT: AN IMF-DFID COLLABORATION'. It features logos for UKaid and the International Monetary Fund. The page is last updated on May 23, 2014. Under the heading 'About the databases', it explains that the toolkit covers 187 countries and provides indicators on export product diversification and export product quality from 1962-2010. It mentions that the measures are based on an updated version of the UN-NBER dataset, which harmonizes COMTRADE bilateral trade flow data at the 4-digit SITC (Rev. 1) level. The export diversification and quality database was developed by IMF staff under an IMF-DFID research collaboration. The page lists three main indicators: the Export Diversification Index, the Extensive Margin, and the Intensive Margin. Higher values for all three indices indicate lower diversification. The Export Quality Database contains export quality measures across different aggregation levels of export products. Higher values for the quality indices indicate higher quality levels. At the bottom, there is a section 'Download the entire databases (Excel/CSV format)' with two items: 1. Export Diversification Database (Size: 265 Kb) and 2. Export Quality Database (Size: 658 Kb). The Quality Index for the second database is further detailed as: Quality Index: Overall and 1 digit level (Size: 658 Kb) and Quality Index: 2 digit level (Size: 4 MB).



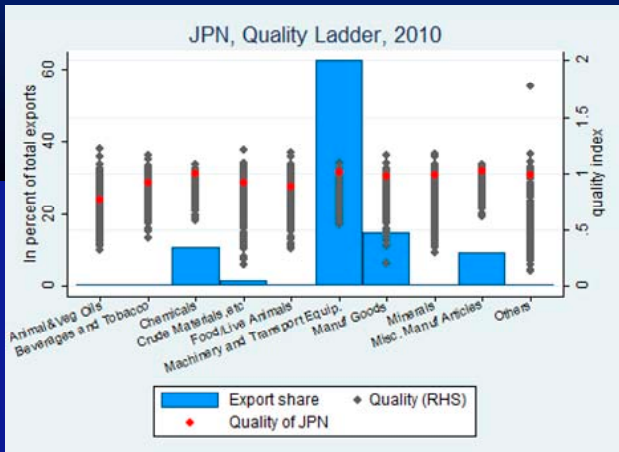
# Diversification Toolkit

➤ Example of the toolkit data: Tanzania



Thank you

# Example: Japan



## Japanese car exports

SITC 7321

- Rising quality reached world frontier in the early 1970s. Rising prices put pressure on market share in 1990s.

