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THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAI'I

Forecast Project

Tariffs in a World of Global Value Chains:

Whose Companies Take the Hit?

Byron Gangnes

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Trade wars

Based on, Production Switching and Vulnerability to Protectionism (with Ari Van Assche), Chapter 5 in van Tulder, R., A. Verbeke and B. Jankowska, eds., *International Business in a VUCA World: The Changing Role of States and Firms*. Progress in International Business Research Vol. 14, Emerald, forthcoming.

Production switching

"Their [sic] is no reason for the U.S. Consumer to pay the Tariffs, which take effect on China today. […] Also, the Tariffs can be completely avoided if you by [sic] from a non-Tariffed Country, or you buy the product inside the USA (the best idea). That's Zero Tariffs. Many Tariffed companies will be leaving China for Vietnam and other such countries in Asia. That's why China wants to make a deal so badly!..."

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Production switching and trade policy impacts

- **Li and Fung response to South African quotas**

  "On a Friday in early September 2006, the South African government announced that it would be imposing strict quotas on Chinese imports in two weeks. Li & Fung had orders already in production for South African retailers that would be affected by these changes. Managers began to look at contingency plans to move production to factories in different countries and even to move the last stage of existing orders to different end countries to satisfy non-China country-of-origin rules."

  — Fung, Fung and Wind, 2007, 58-9.

- **The ability to switch production presumably reduced adverse impact on Li and Fung**
  - But note that it <u>increased</u> the vulnerability of existing Chinese suppliers
- **How readily a company can do this will depend on suppliers' position in the global value chain**
  - How ***footloose*** is the production activity?

Tariff impacts on trade

- **Tariffs traditionally evaluated using *standard trade model***

$$M = g(Y, P, PM)$$

- **The Armington (1969) formulation**

$$ln\left(\frac{M}{D}\right) = \sigma\, ln\left(\frac{P}{PM}\right) + \sigma\, ln\left(\frac{1-\delta}{\delta}\right)$$

$$ln\left(\frac{M_j}{M_k}\right) = \sigma\, ln\left(\frac{PM_j}{PM_k}\right) + \sigma\, ln\left(\frac{\delta_j}{\delta_k}\right)$$

  - Tariffs directly affect trade by changing relative price of goods from different markets

- **Effects of hike in tariff (or tariff-equivalent barrier) depends on *substitutability* of home and foreign goods, σ, or between alternative foreign source countries**

GVCs and substitutability

- **Standard model assumes goods have clear national identities**
- **But production has become fragmented**
  - Global value chains
- **This will make a difference for tariff impacts**
  - Backward and forward linkages
- **May increase substitutability of domestic and foreign goods**
  - Multinationals may be able to relocate production to avoid bilateral tariff: ***production switching***

Production switching and tariff impacts

- **We sketch a theoretical model (Ma and Van Assche, 2014) where companies have option to produce at home or abroad**
  - Conditions under which firms will choose to develop GVCs
- **The option for the MNE to relocate production:**
  - Increases the tariff elasticity of the supplier country's exports
  - Exports of countries specialized in footloose activities are more elastic to tariffs

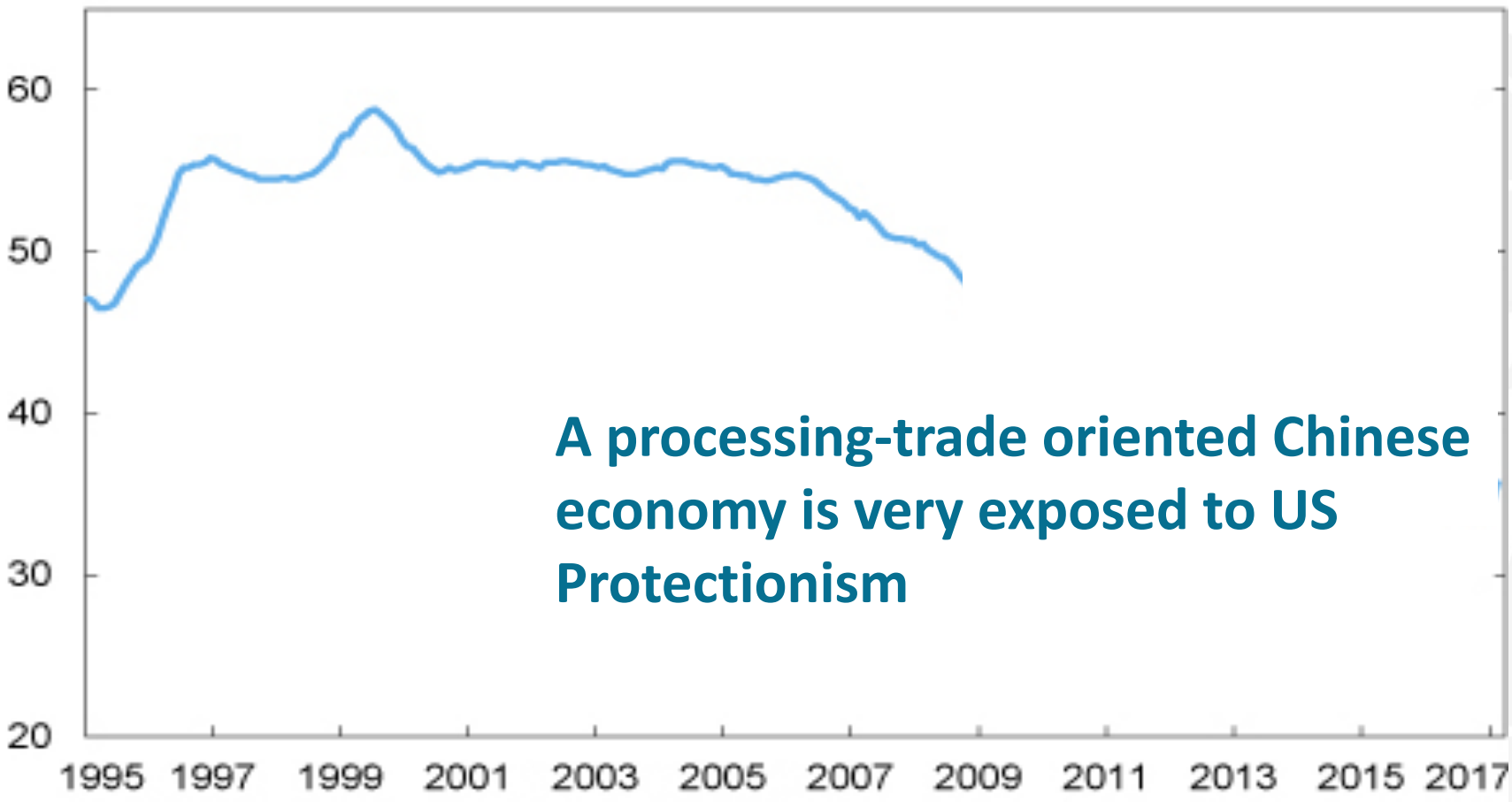
- **What about China?**

China's export-led development strategy

- **Since early 1980s, attraction of labor-intensive export processing activities key in China's export-led development strategy.**
- **Initially specialized in the simple assembly of products in labor-intensive industries.**

China: Processing Exports as Share of Total Exports

Percent, 12-month average



A processing-trade oriented Chinese economy is very exposed to US Protectionism

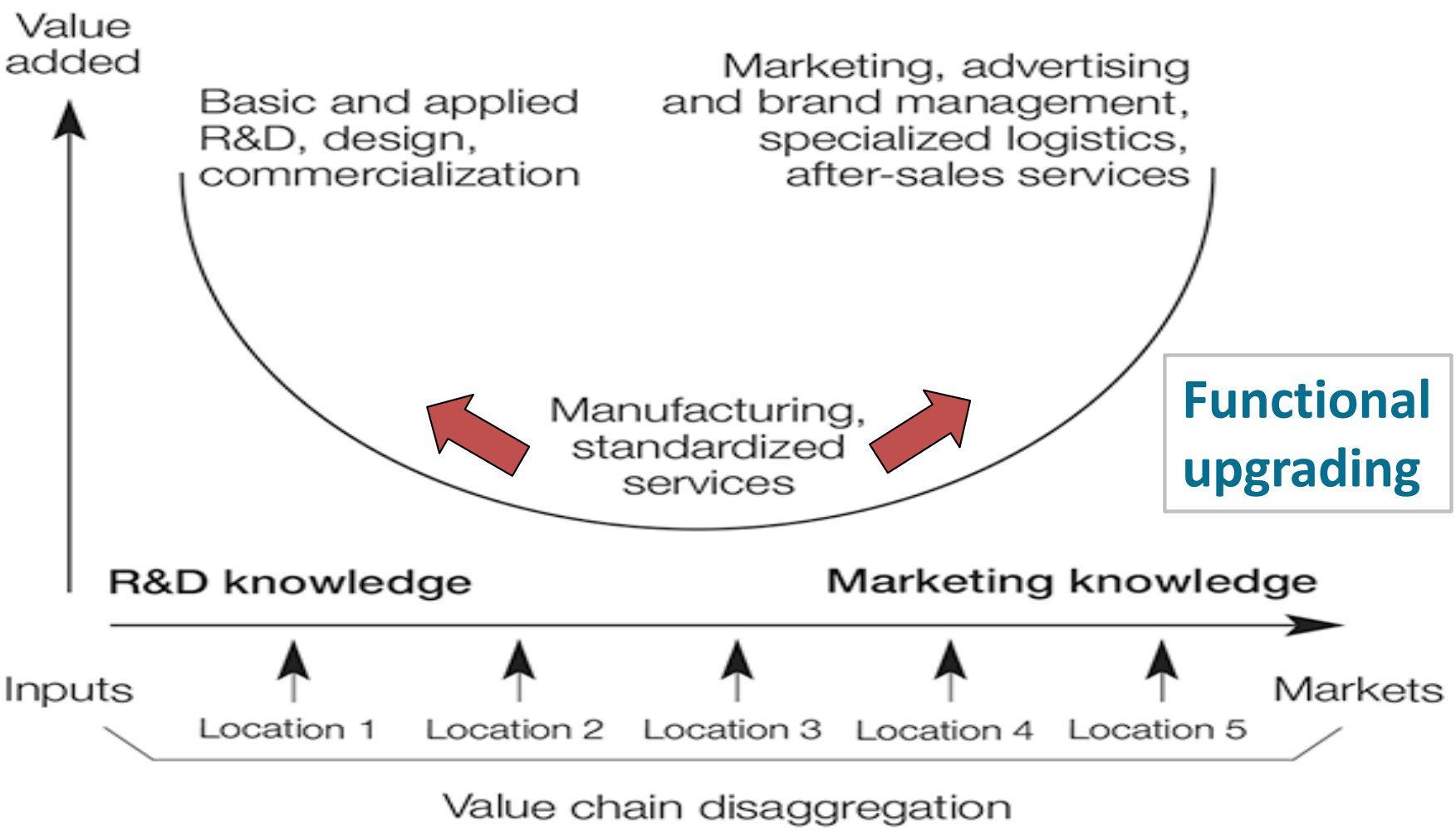
Source: CEIC.

Note: "Processing exports" consist of exported goods that use imported raw materials, parts, or components as inputs.

Source: Klitgaard and Wheeler (2017)

Chinese upgrading

Figure 1: The "smile" shape of value creation



Source: Mudambi (2008).

Functional upgrading in China

***Toll manufacturer*: manufactures a product using inputs provided by the foreign lead firm.**

***Contract manufacturer*: responsible for searching, obtaining, performing quality control, and paying for the imported intermediates prior to conducting their manufacturing functions**

Functional upgrading in China

- **The share of contract manufacturing in total processing trade increased by 11% during the period 2000-2006, and more slowly since then**
  - (Van Assche and Van Biesebroeck, 2018).
- **Functional upgrading makes Chinese firms more *indispensable* in GVCs.**
  - And their exports less ***footloose***

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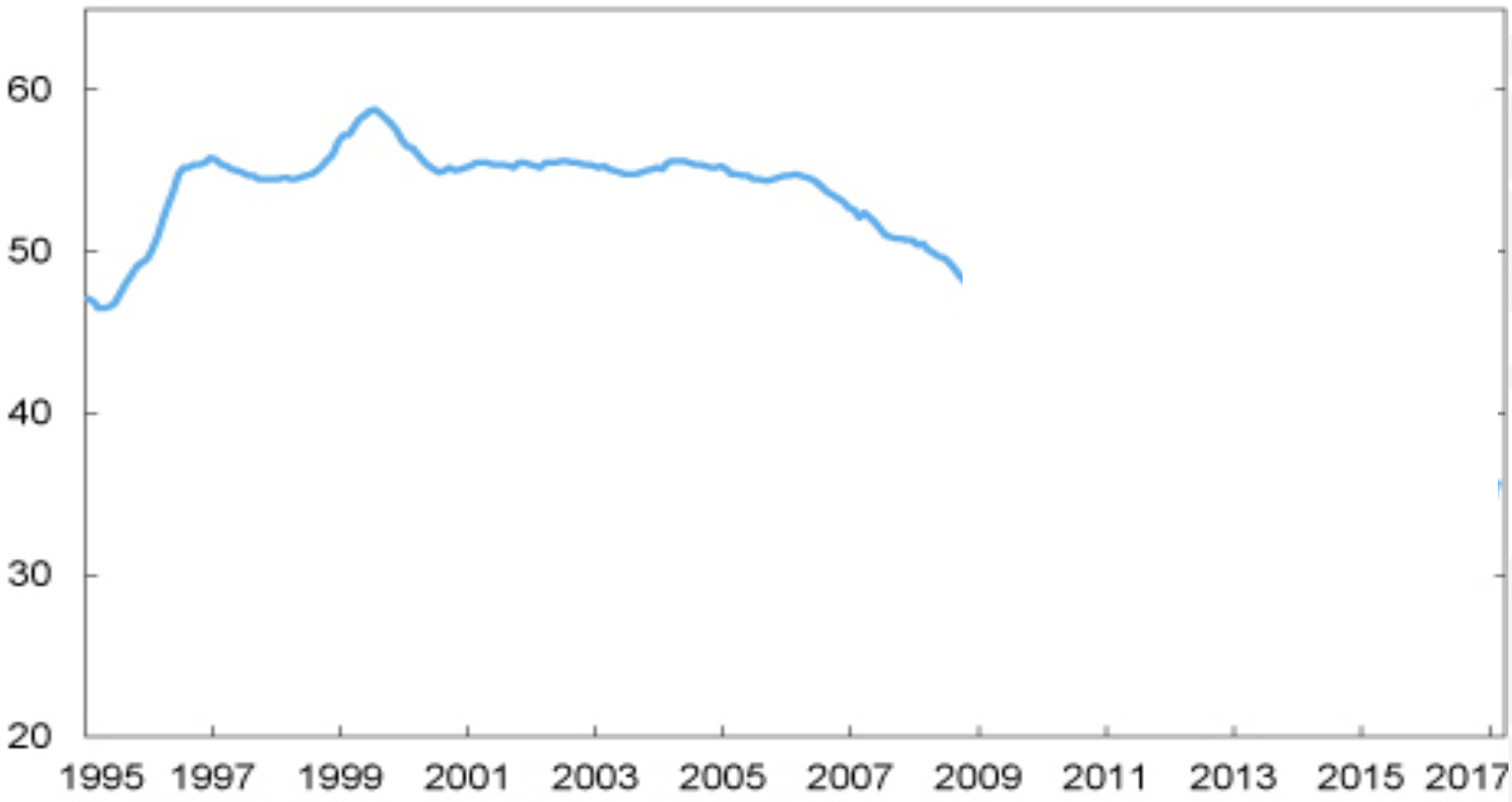

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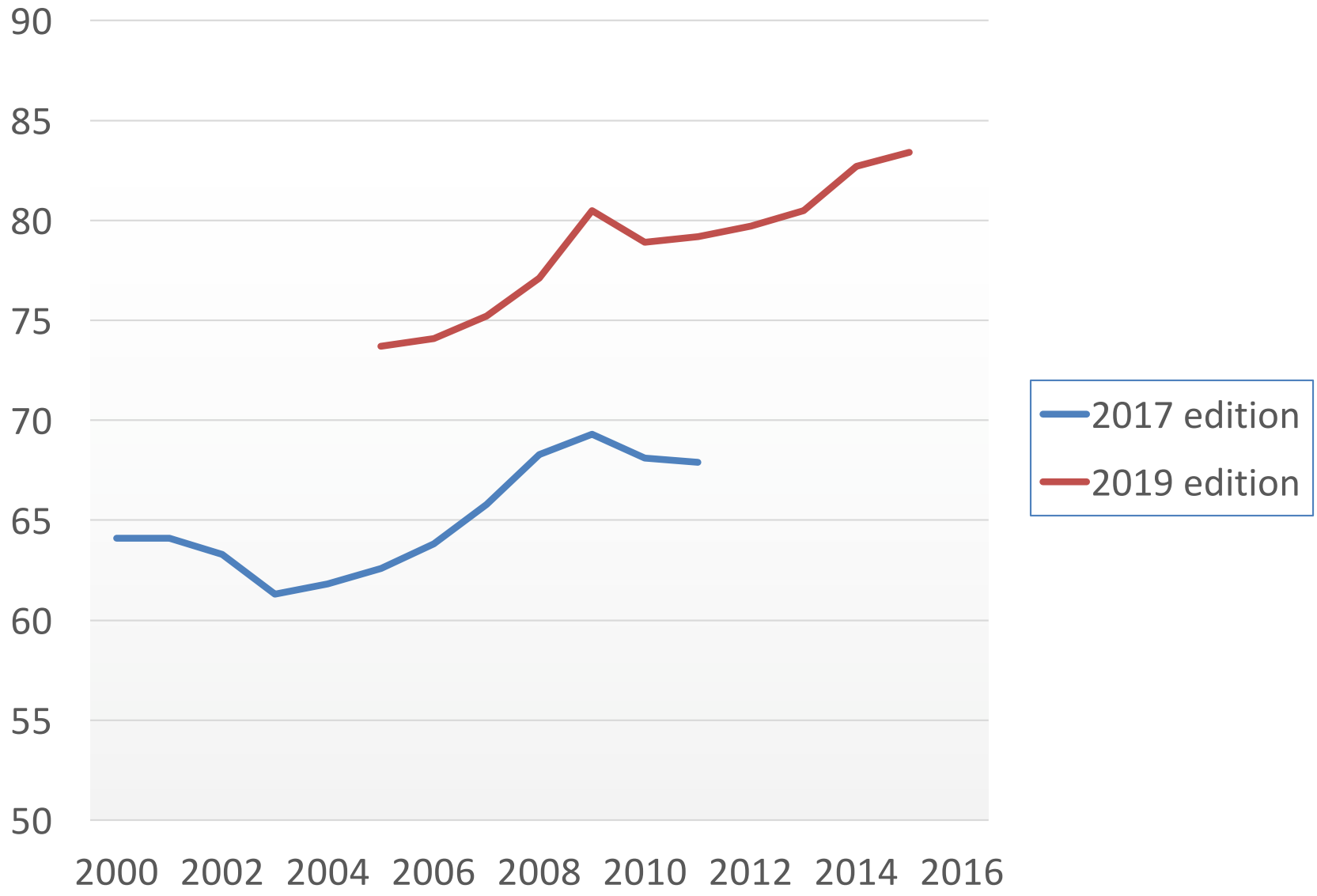
Share of domestic value added in China's gross exports, 2000-2016



Data Source: OECD/WTO Trade in Value Added Database

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Upgrading and China's tariff vulnerability

- **China's ongoing production upgrading is likely making the country less vulnerable to protective US trade measures**
- **But this is an ongoing process**
  - How vulnerable does China remain?

US Exposure to the Trade War

- **What does this mean for US firms?**
  - US firms reliant on parts from China are more exposed to output and job losses if production cannot be switched
    - Even relatively low-technology US producers have come out strongly against tariffs, e.g. footwear
  - Anecdotal and trade data indicate some firms are switching some production, but to other Asian locations and Mexico
    - Others are not
    - Will this become more common the longer this lasts? But expensive!
  - Very little evidence of reshoring to US
    - Apple, Foxconn promises
    - Manufacturing sector in recession

This analysis is narrow in scope

- **We look at one element of a complex issue**
  - Conceptual and descriptive analysis
- **Implications for**
  - Consumer costs
  - Aggregate effects on production, employment, and income
- **General equilibrium adjustments are also important**
  - Capital flows
  - Exchange rates
  - Performance in third-country markets
  - Policy reactions