

MALAYSIA'S INDUSTRIALIZATION: STRATEGIES TO STIMULATE INNOVATION SYNERGIES

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1. Introduction

Structural change phases in economic growth:

Primary sectors (agriculture and mining) initiate economic growth followed by secondary sectors (manufacturing and construction) and eventually tertiary sectors (Services).

Share of primary (originally) and secondary sectors (later) will rise and gradually fall as services eventually starts to dominate in GDP.

However, successful developers are characterized by a rise in value added in gross output in all sectors.

Policy focus on manufacturing under the six prime ministers:

Tunku Abdul Rahman –import-substitution (Pioneer Industry Ordinance 1958) – IS1* 1957-69

Tun Abdul Razak – Employment generation key thrust – Free Trade Zone Act of 1971 * 1970-1976

Tun Hussein Onn – Followed Tun Razak closely *1976-1981

Tun Mahathir Mohamad (I) * 1981-2003 IS2* Look East Policy, National Industry Focus, Privatization and Technological Upgrading – Since AFTA gradual removal of IS policies

Tun Abdullah Badawi *2003-2009 Biotechnology and SMEs

Dato Seri Najib Abdul Razak *2009-2018. Innovation Driven through PEMANDU/AIM.

mature deindustrialization calls for policy reorientation, which is the focus of this paper

Passinetti's articulation of structural change - Share of primary (originally) and secondary sectors (later) rise and gradually fall as services eventually starts to dominate in GDP.

However, successful developers are characterized by a rise in value added in gross output in all sectors.

Institutional and firm-based strategies to stimulate innovation synergies

Figure 1: GDP Per Capita, Selected ASEAN Countries, 1960-2015

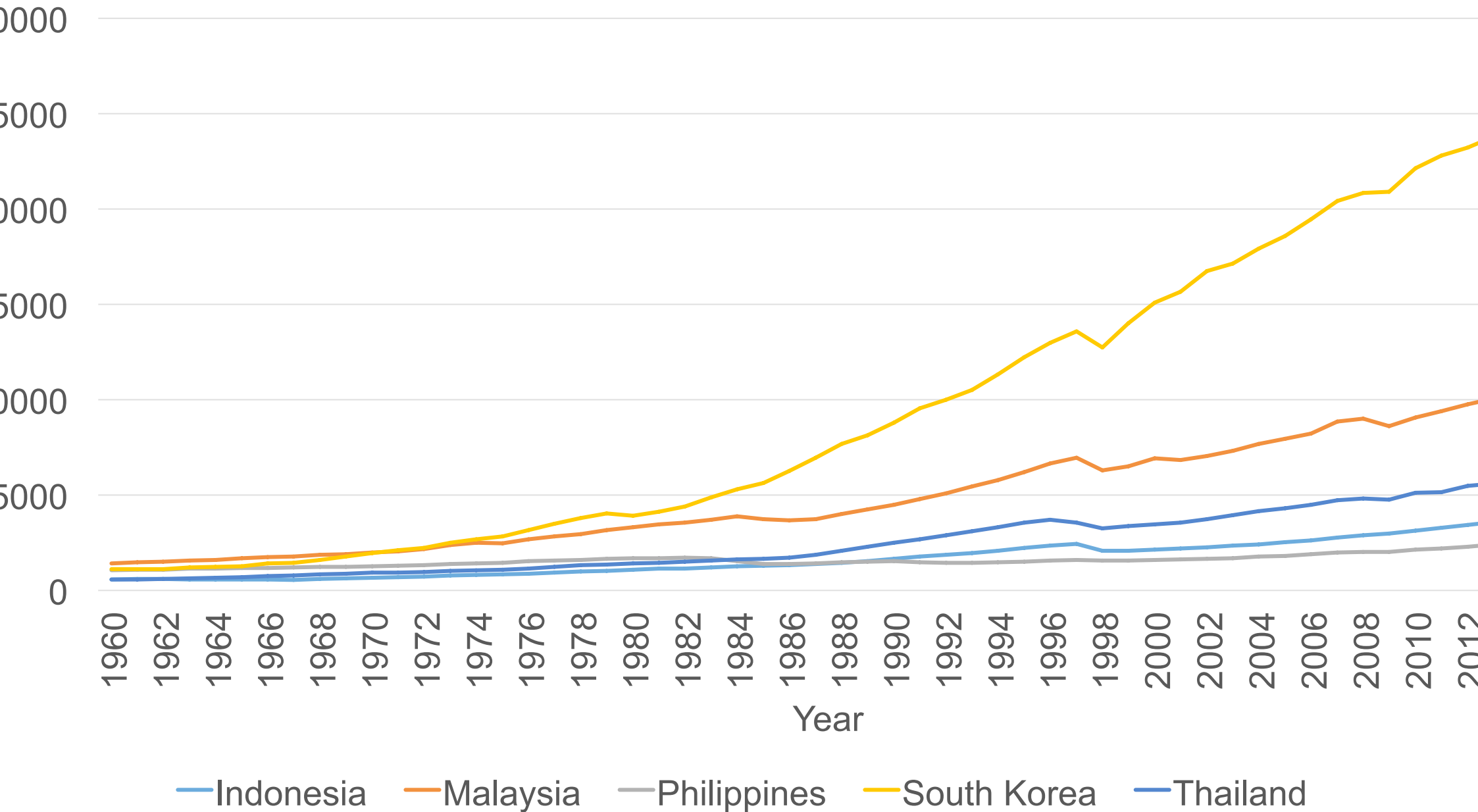
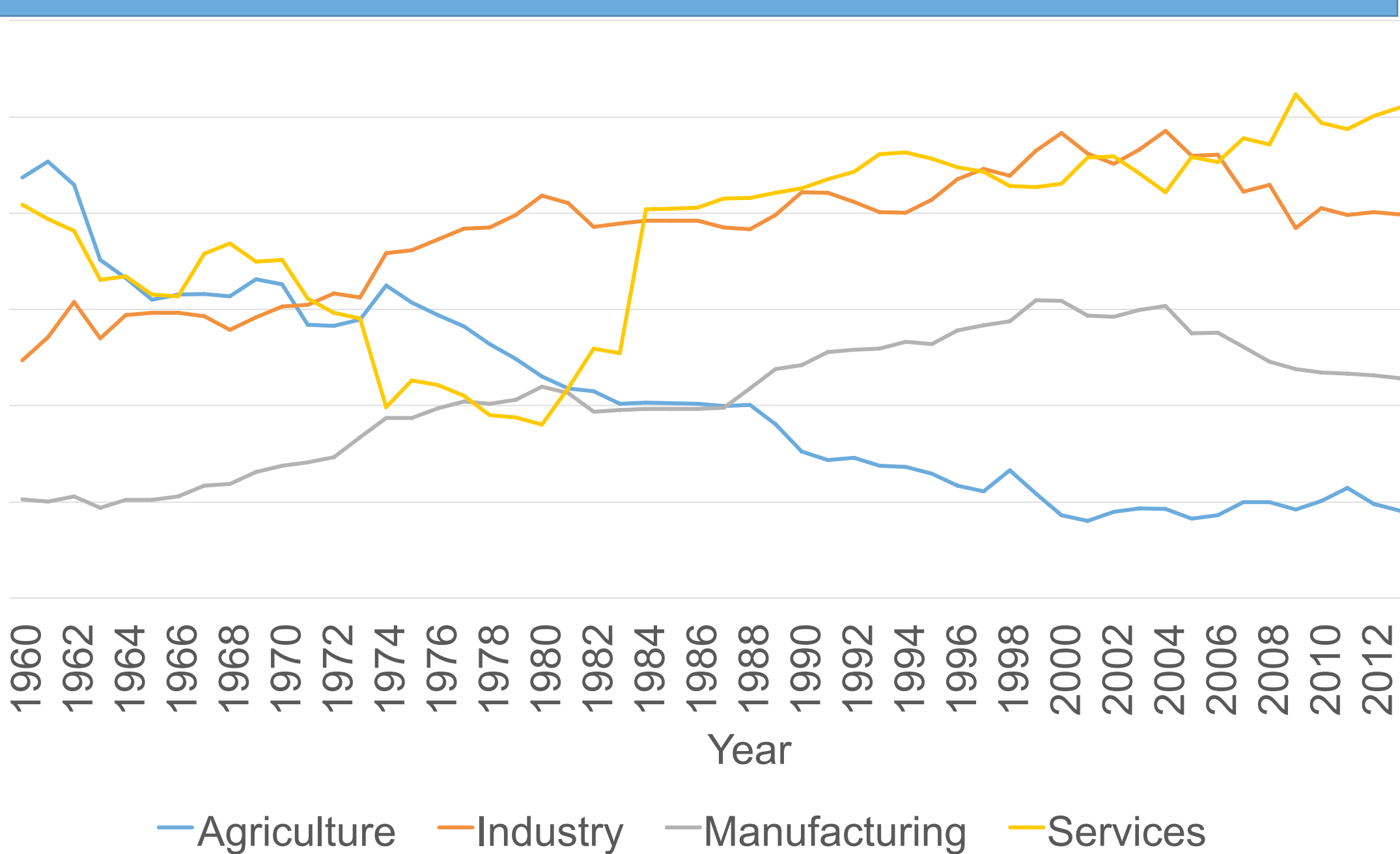


Figure 2: GDP by Sectors, Malaysia, 1960-2016



2. Industrial Focus

Abdul Rahman followed World Bank advice to check trade imbalance/ PIO to promote manufacturing using manufacturing incentives.

Razak and Hussein Administrations were primarily focused on alleviating poverty. EO industrialization to create jobs

- Unemployment rates showed trend fall (Figure 3)
- Incidence of Poverty and Gini coefficient also showed trend fall (Figure 4).

Mahathir I administration focused on industrialization

- launched heavy national industries through protection from 1981.
- Rising debt service from the early 1980s (Figure 5)
- EO sector was revived from mid-1980s following economic downswing
- Massive inflow of FDI from 1988 following Plaza Accord of 1985 and GSP termination from Asian NIE (Figure 6)
- Way forward of 1991 to make Malaysia developed by 2020 – Intermediary Organizations launched to quicker technological upgrading
- Asian financial crisis -1997-98
- Premature deindustrialization and Dutch Disease starts from 1990s (Figure 7)

Mohi and Najib administrations

- Shifted focus to innovation, biotechnology and SMEs.

Mahathir II

- Accountability and balancing budget important tenets but elements of high technology industrialization in the horizon

Figure 3: Unemployment Rates, Malaysia, 1970-2014

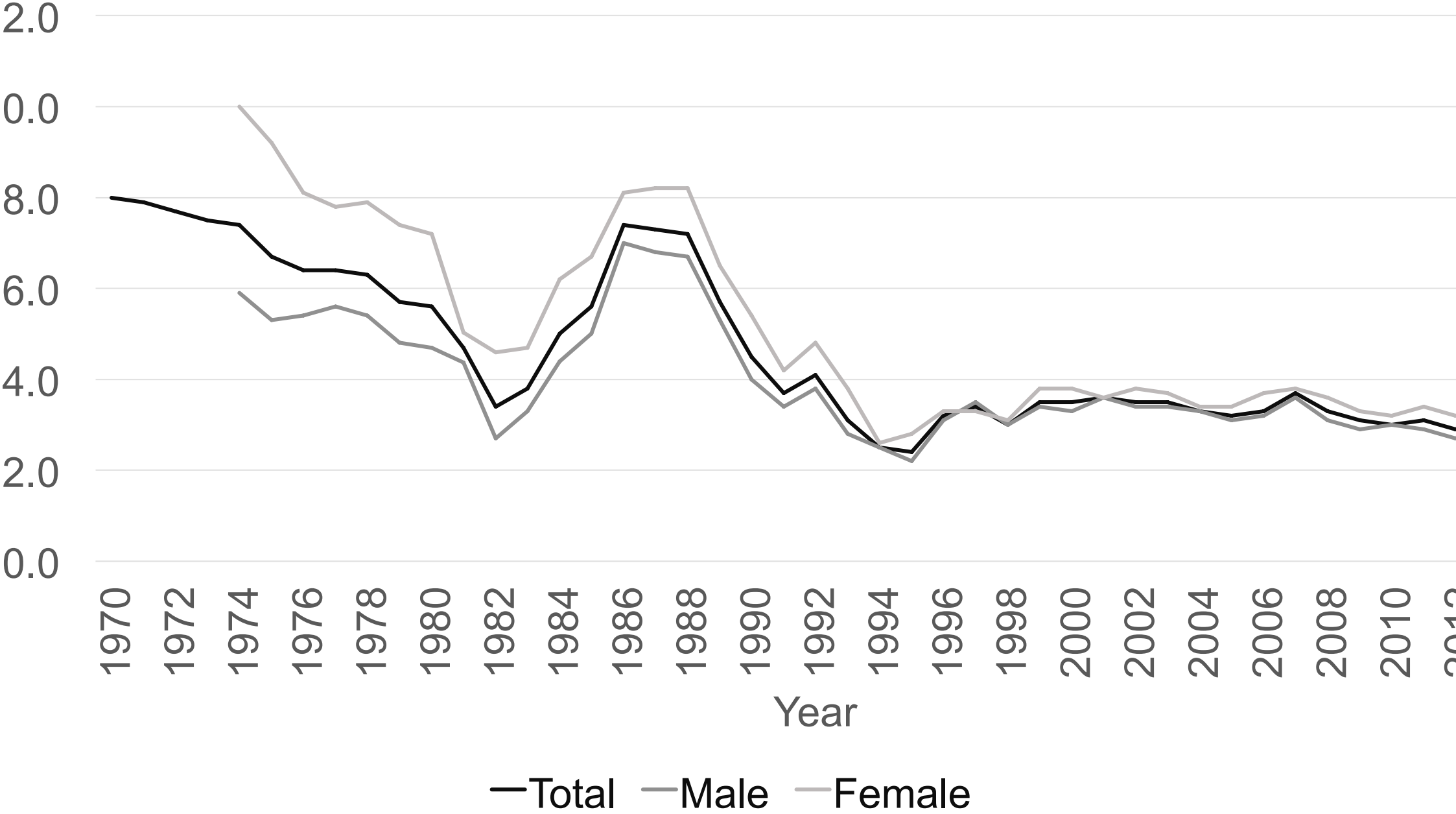


Figure 4: Absolute and Relative Poverty, Malaysia, 1970-2014

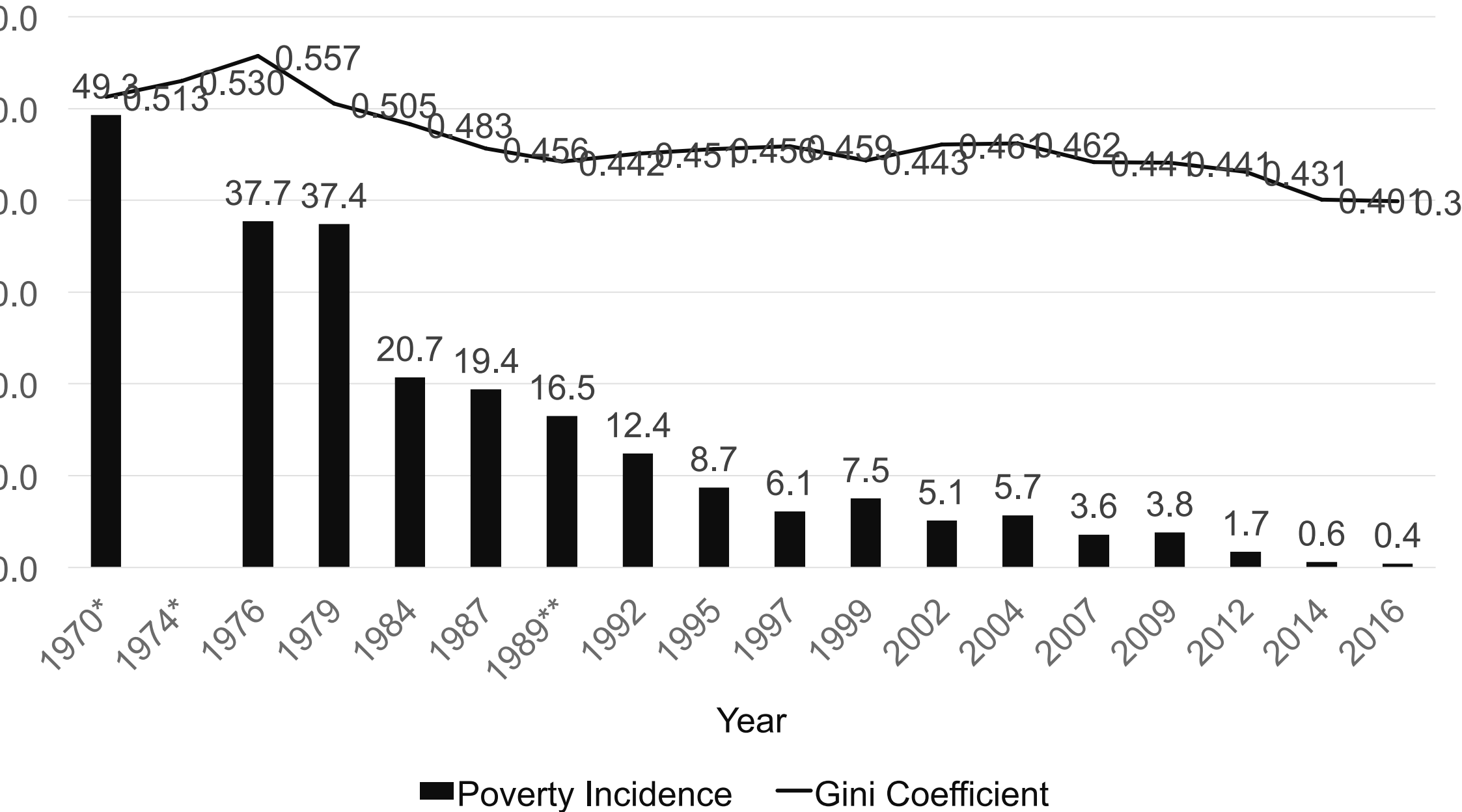


Figure 5: Debt Service as a Share of Gross National Income, Malaysia, 1970-2016

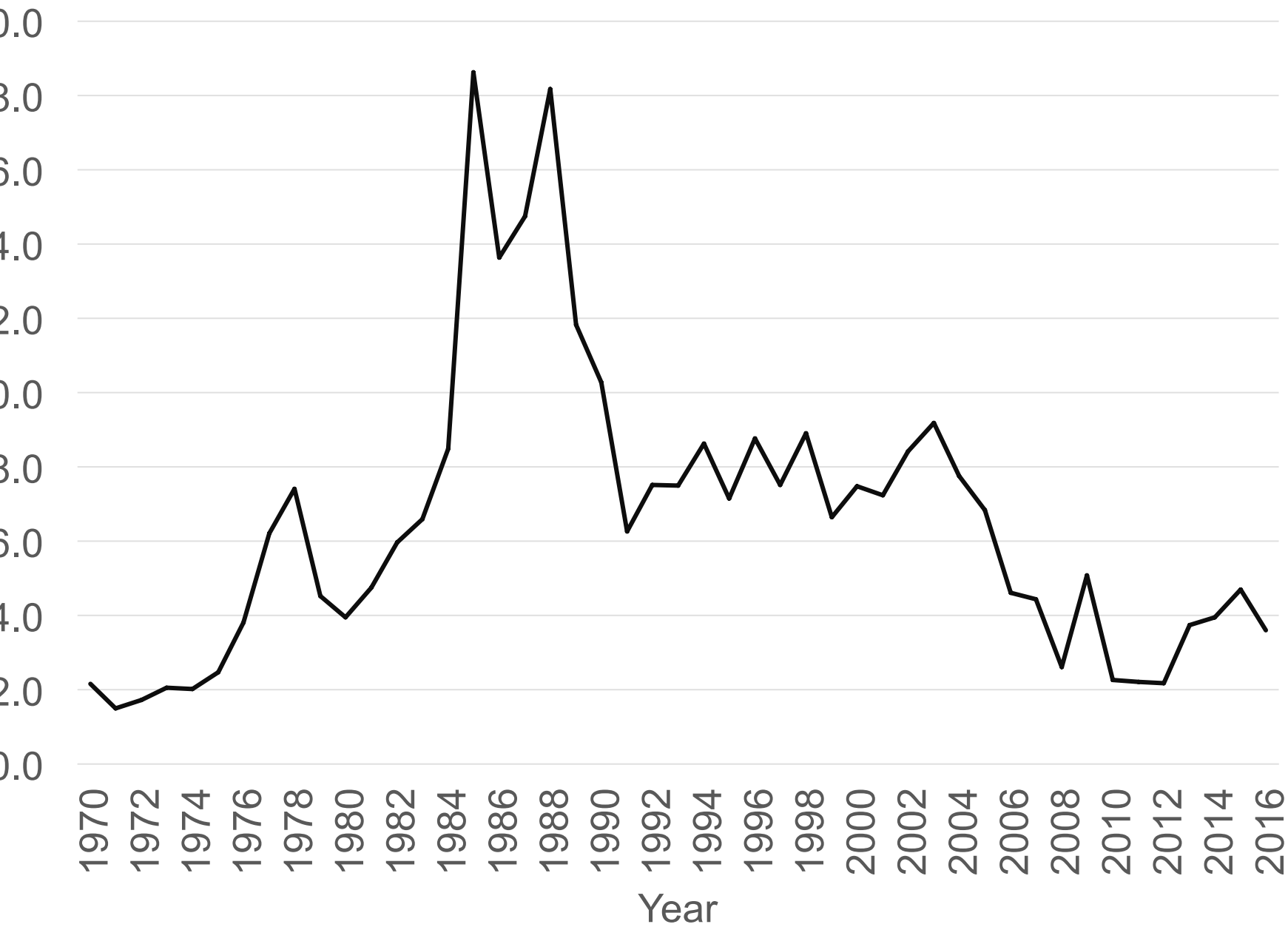
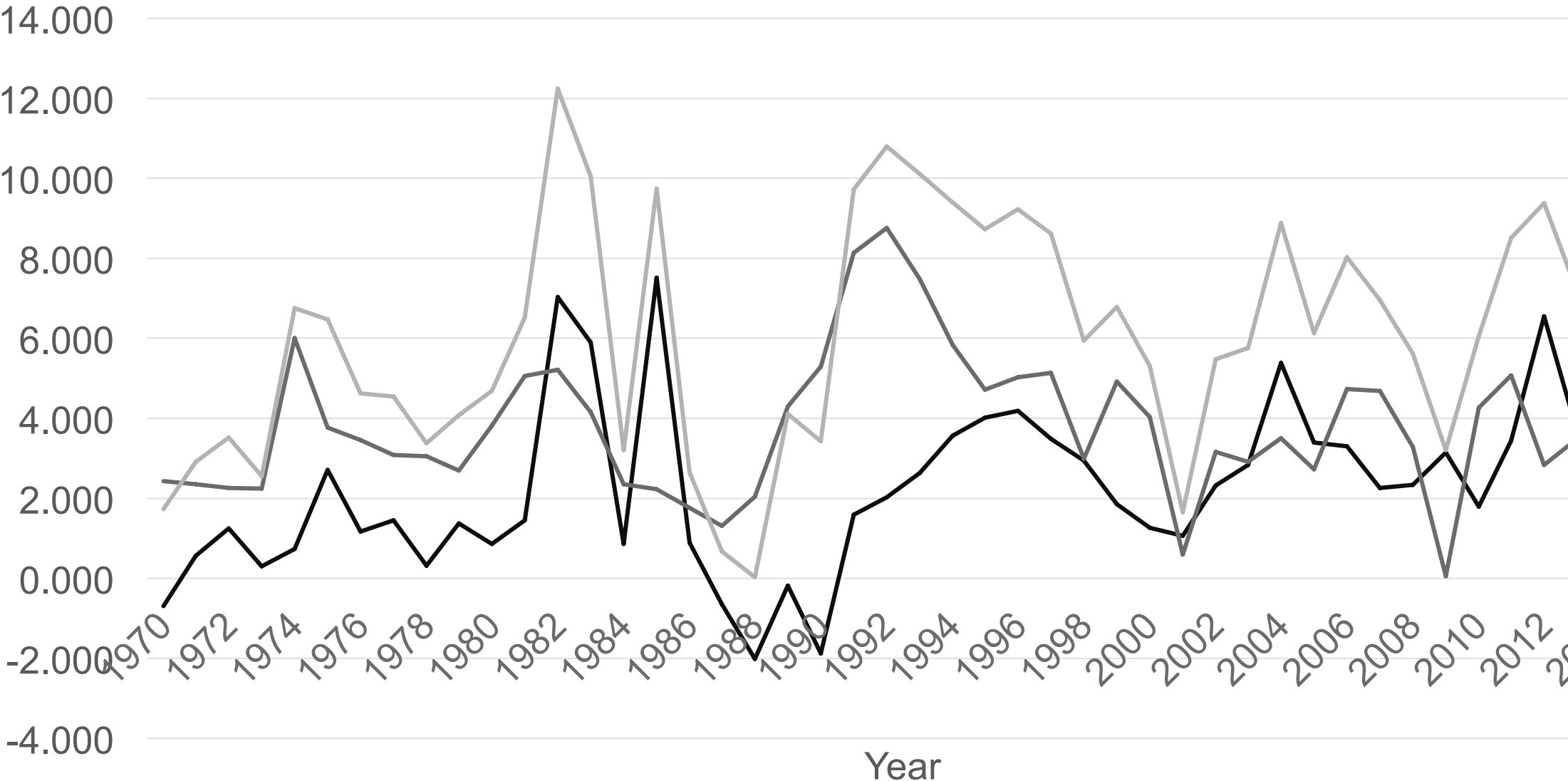
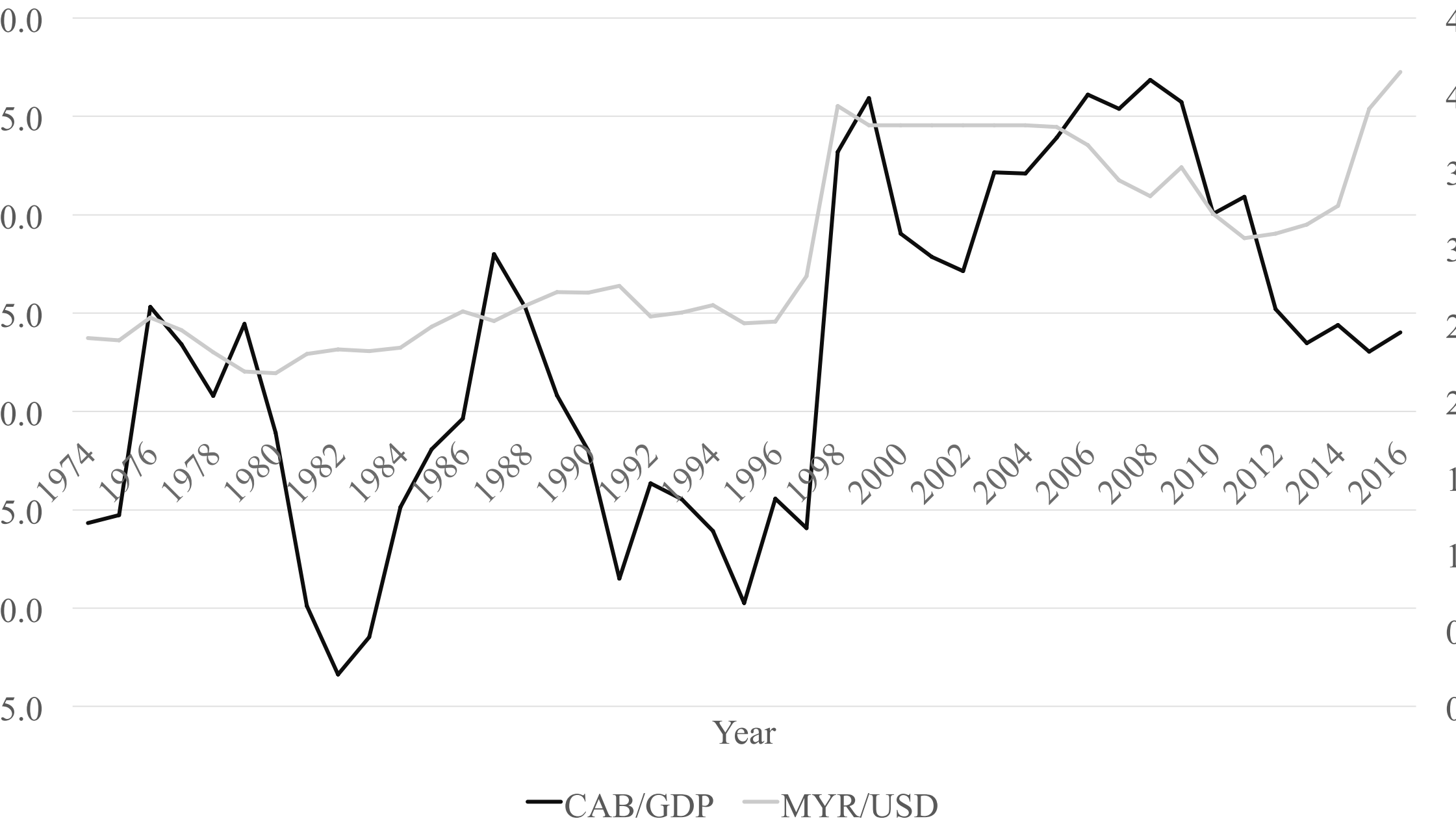


Figure 6: Net Foreign Capital Inflows, Malaysia, 1970-2016



— Net Portfolio Equity Flows — Net Foreign Direct Investment Inflows — Total Net Inflows

Figure 7: Current Account in GDP and Ringgit-USD Exchange Rates, Malaysia, 1970-2016



3. Premature Deindustrialization

- Value added intensity of manufacturing started to decline prematurely since the Mahathir administration from 1998 (Figure 8).
- Downgrading in key industries from medium to low value added manufacturing – e.g. from ICs to PCBs, FCBs, resistors, and capacitors
- Malaysian manufacturing value added intensity lagging behind South Korea, Taiwan, and China.

Figure 8: Value Added in Gross Output, Manufacturing, Korea (Republic), Malaysia, Singapore 1960-2015

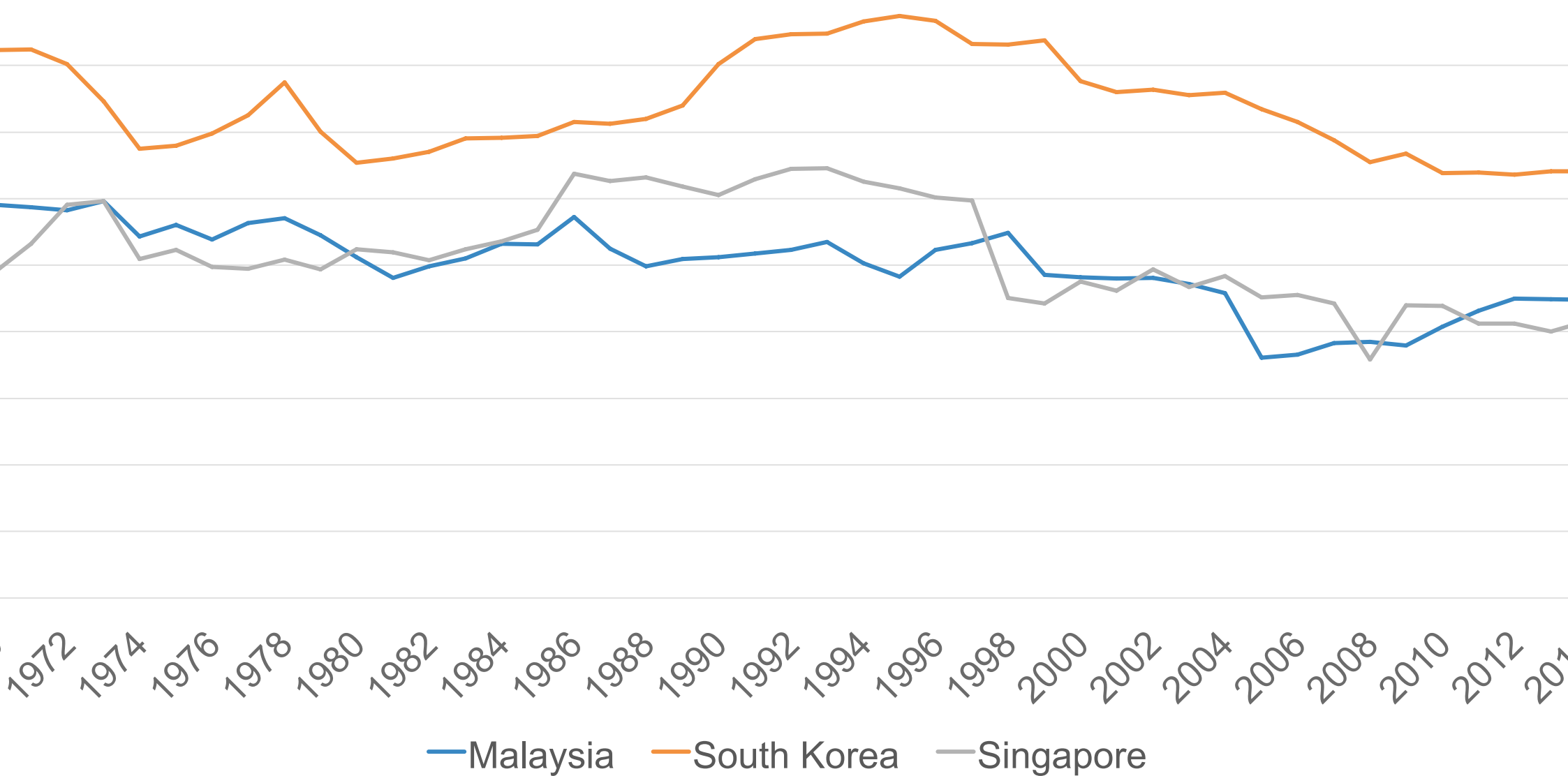


Figure 9: Electronics Value Added in Gross Output, Selected Countries, 1970-2015

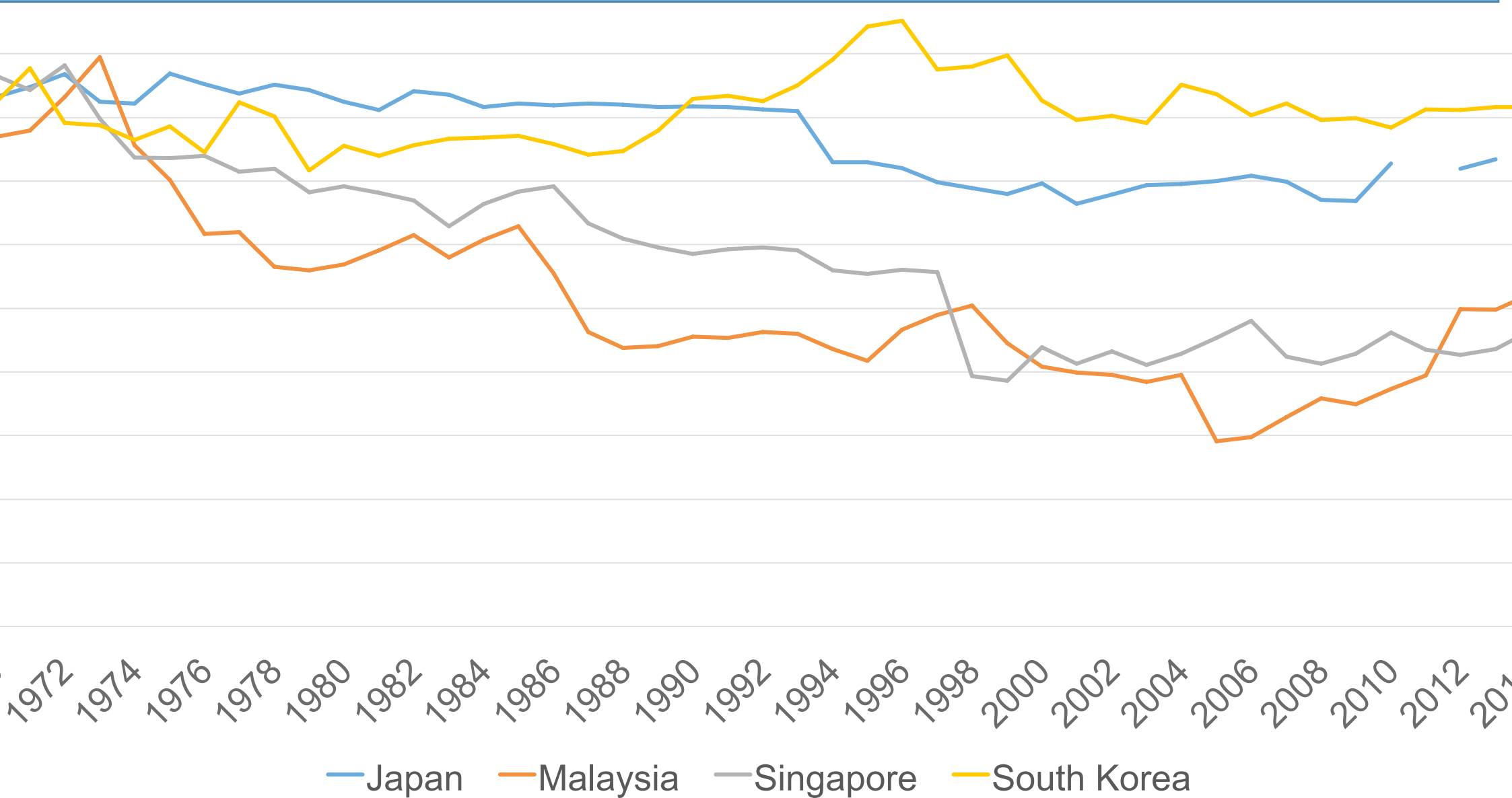


Figure 10: Food and Beverages Value Added in Gross Output, Selected Countries, 1970-2015

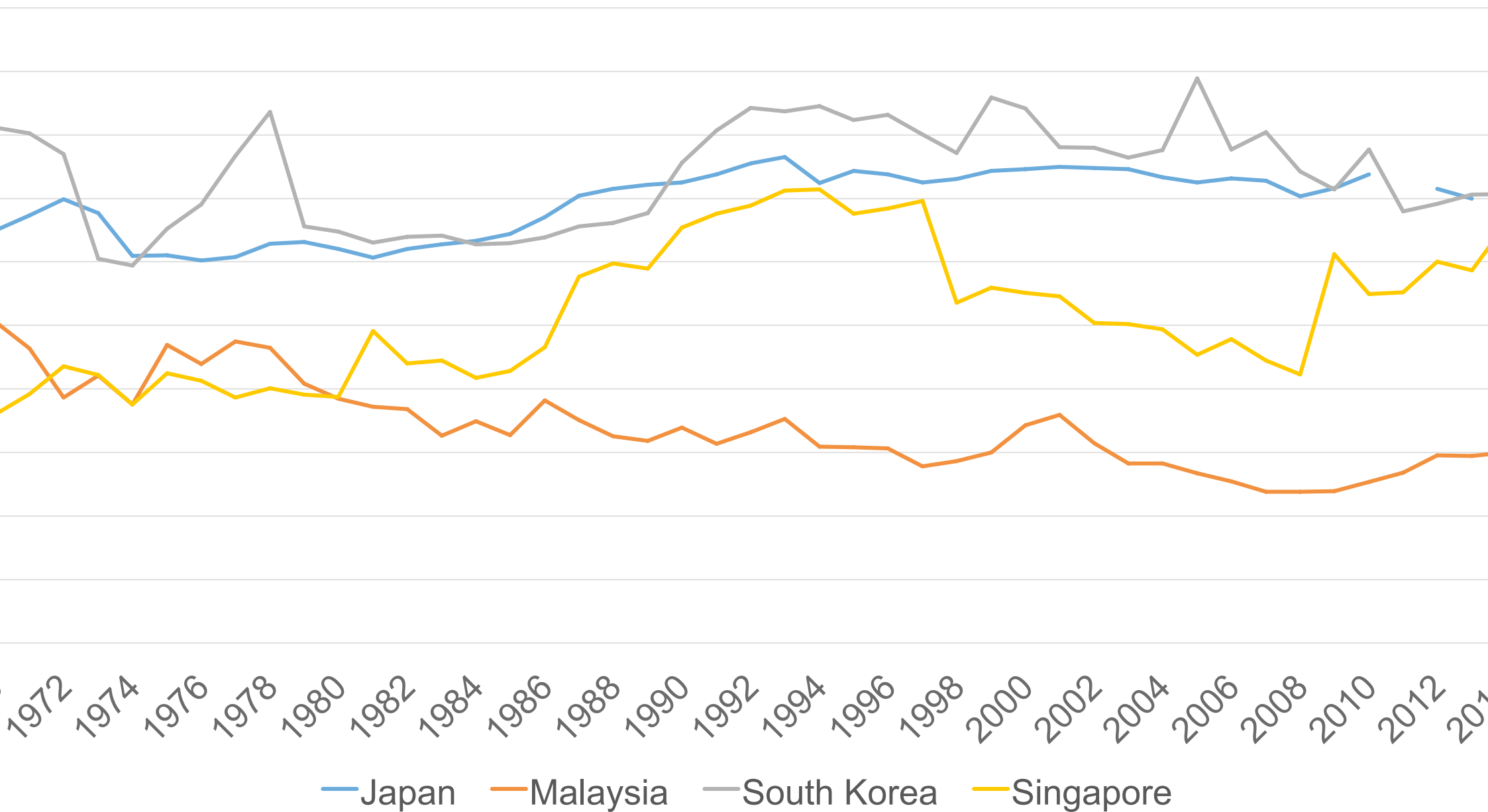
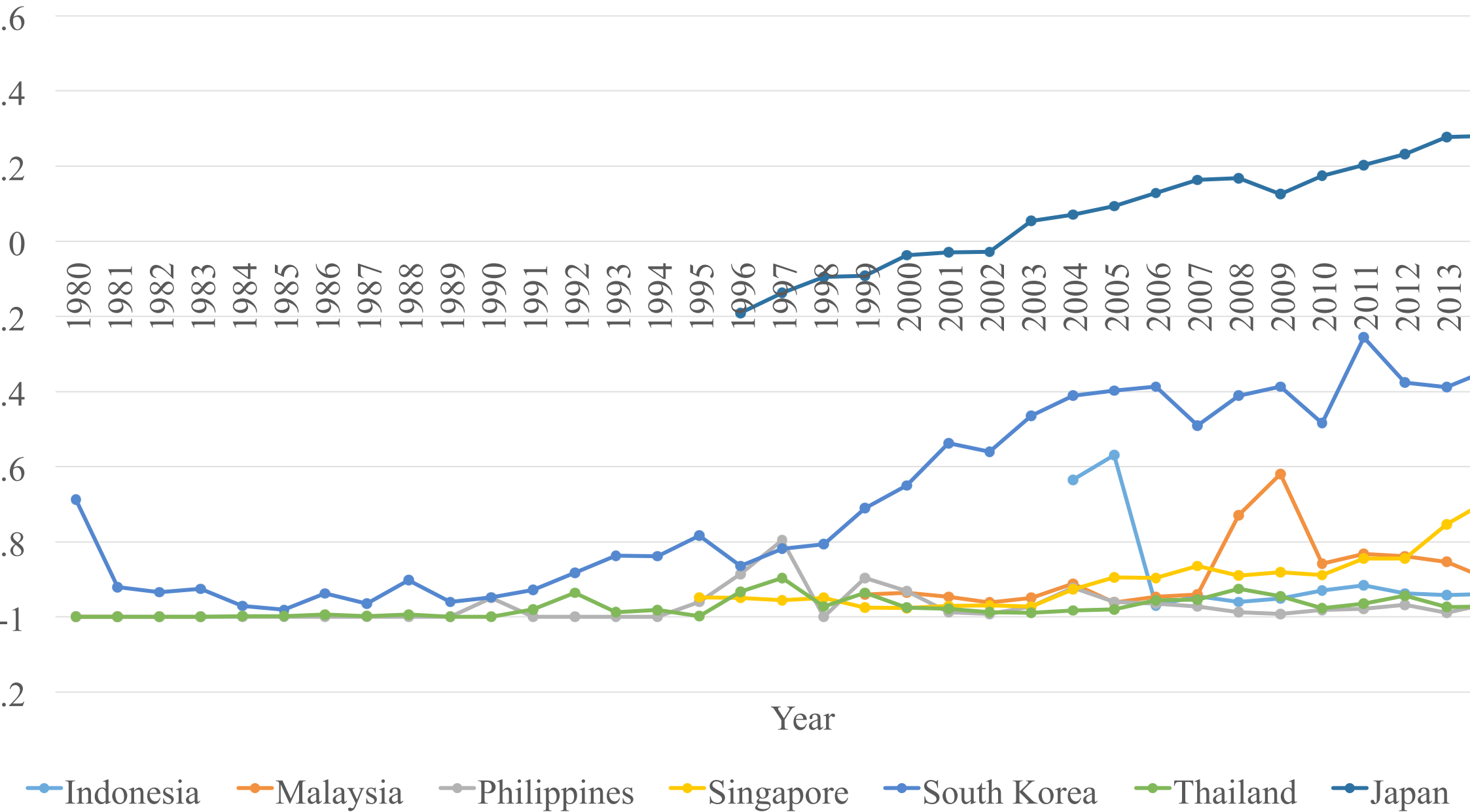


Figure 11: Intellectual Property Rights Trade Balance, Selected Countries, 1970-2015



4. Reviving Value Added Upgrading

- Incremental innovations through adapting, modifying and proliferating existing stocks of knowledge embodied in products, processes, manuals across different sectors from both domestic and foreign sources (Figure 13).
- Radical innovations (Figures 14 and 15):
 - Schumpeterian notions of advancing new knowledge in internalized R&D departments of large firms
 - Small firms' access to networks of well connected and coordinated knowledge nodes – R&D labs, incubators and testing centres in science parks, training centres, universities, and business advisory centres.

Figure 12: Institutional Innovation Framework

institutional change driven by Monetary, Fiscal, and

technological policies

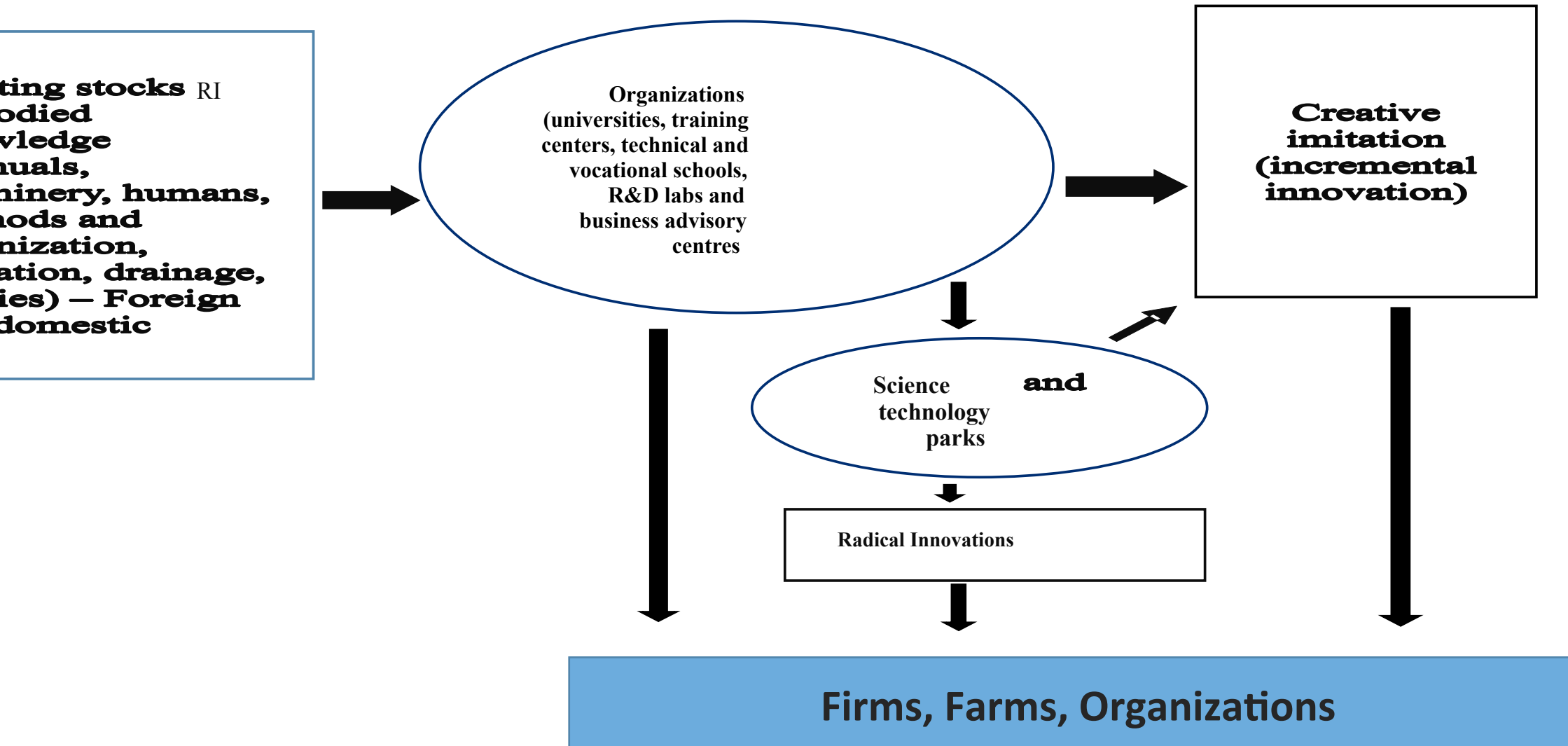


Figure 13: Catching up for driving incremental innovation

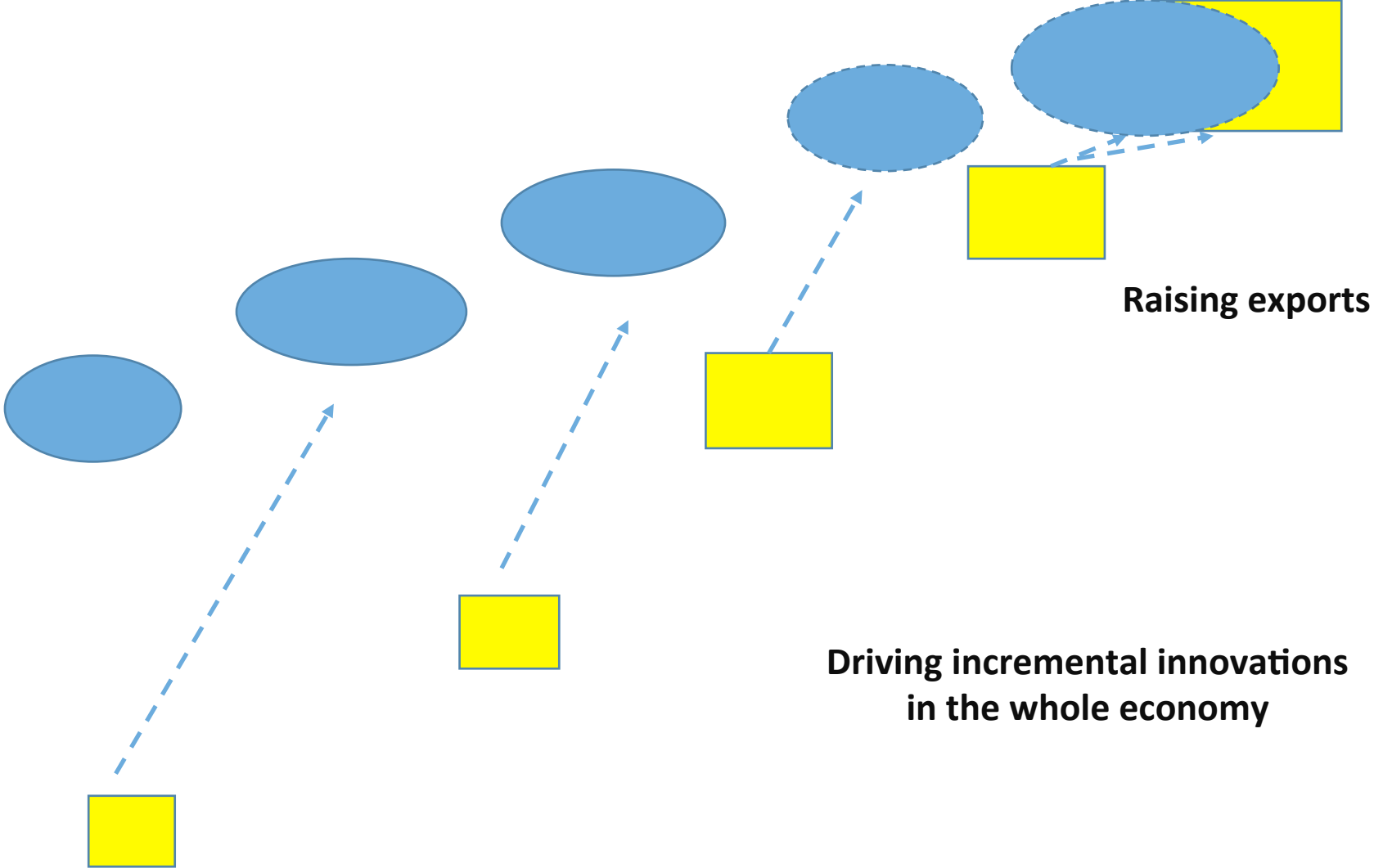


Figure 14: Catching up and leapfrogging in existing markets

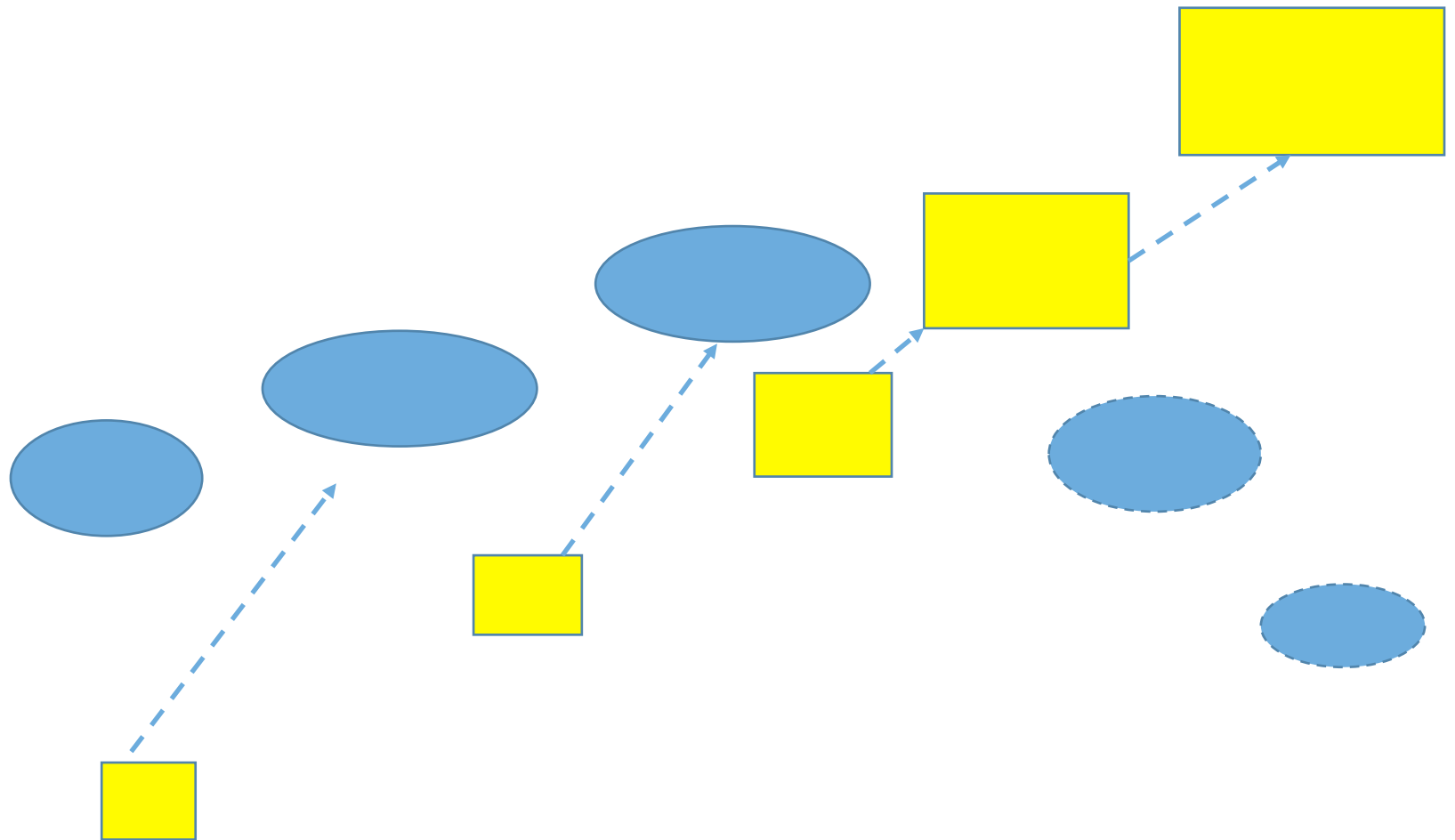
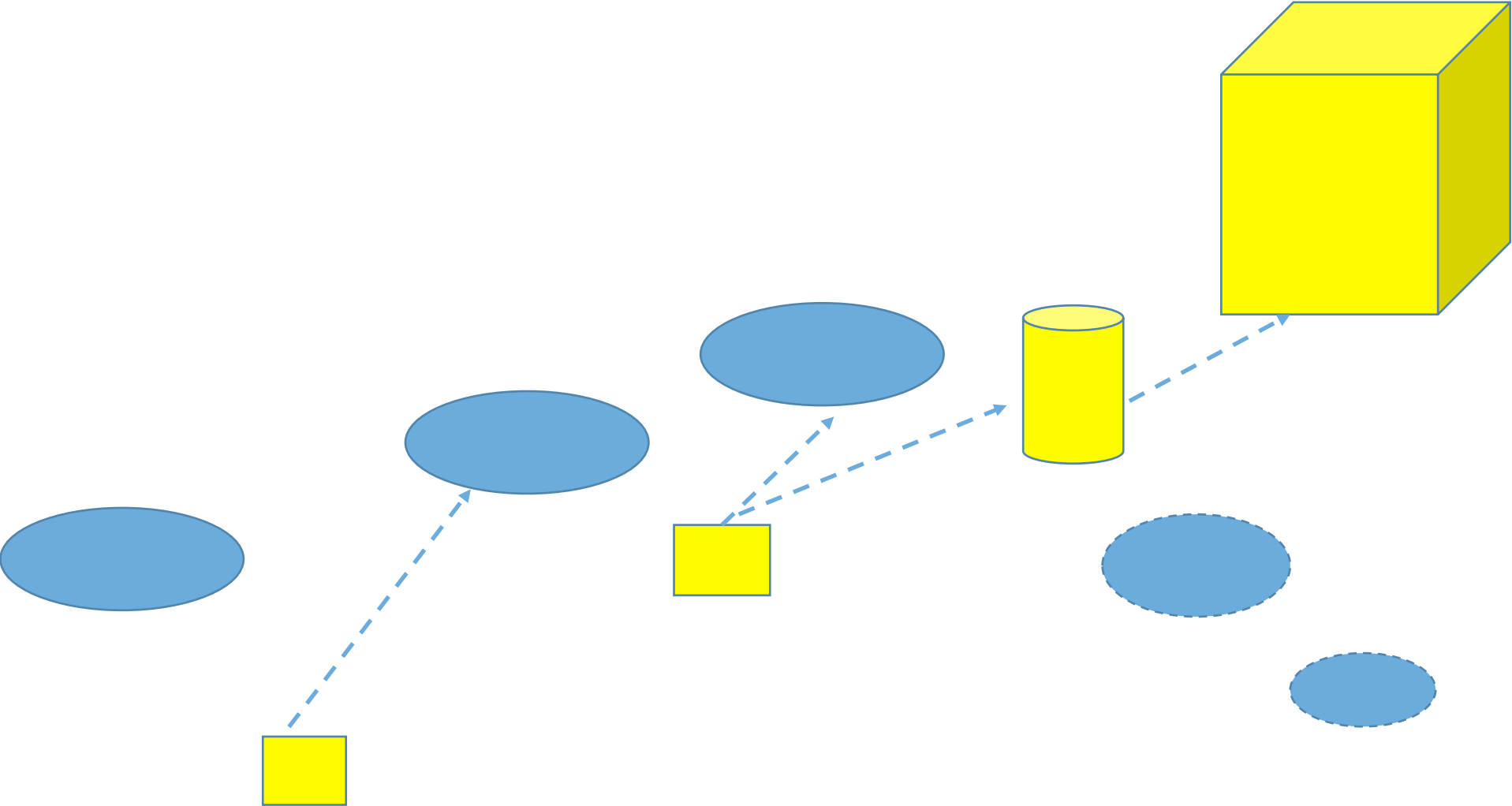


Figure 15: Catching up and leapfrogging by integrating markets



5. Conclusions

fundamental causes of premature deindustrialization:

- Lack of a stringent appraisal mechanism to govern productive and unproductive rents

While a lot of investment were made, the Science, Technology and Innovation (STI) infrastructure did not evolve sufficiently well to stimulate industrial upgrading from low to high value added activities.

Education and training did not evolve sufficiently well the drive to stimulate industrial upgrading from low to high value added activities

Ethnic policies devoid of serious merit undermined leadership of key intermediary organizations

Between Clientelism (malignant form of corruption) versus market-based allocation.

New Malaysia should focus on governing productive rents through active appraisal targeted at stimulating incremental and radical innovations.