

Industrialization in the 21st century: Some basic considerations for development

Thomas Bernhardt

6th Economic Development Days – May 2018
Vienna University of Economics and Business (WU Wien)

The views and interpretations expressed in this presentation are entirely those of the author. They do not necessarily represent the views of – and should not be attributed to – any former or current employer.

Outline

1. Industrialization: Definition and relevance for development
2. Industrialization in the 21st century
 - ▶ Context, challenges, opportunities
3. Approaches in development cooperation
4. Key messages

1. Industrialization

Definition and relevance

Industrialization: Definition

- ▶ **Definition:** Industrialization describes technical-economic processes of transition from agrarian to industrial modes of production with an increasing use of machines in the production of goods and services
- ▶ **Structural change of the economy:** Growing importance of the secondary (industrial) sector at the expense of the primary (agrarian) sector
- ▶ **Characteristics:**
 - ❖ intensifying division of labor
 - ❖ increasing employment of machinery (automation)
 - ❖ emergence of factories
 - ❖ usage of scientific advances
 - ❖ increased labor mobility
 - ❖ urbanization

Industrialization: Acceptance over time

- ▶ Previously: notion of economic development = industrialization
 - ▶ Terminology: industrial countries = developed/rich countries
- ▶ For some decades: loss of significance and acceptance
- ▶ Renaissance in the wake of the recent global financial and economic crisis
- ▶ **SDG 9:** “*Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.*”



Industrialization: What is it about?

- ▶ **Structural change** (away from an agrarian economy)
 - ▶ Reallocation of factors of production (labor, capital, land, know-how)
- ▶ **Diversification** of the economic system
- ▶ **Value addition**: processing of raw materials; deployment of local factors of production
- ▶ **Technology** intensity, **innovation**, **productivity** enhancements
- ▶ Intensification of economic **linkages**
- ▶ **Competitiveness** in domestic and foreign markets
- ▶ Meeting demand for consumer and capital goods with local supply
- ▶ Generating **foreign exchange** revenues and reducing dependence on imports
- ▶ **Exports** and integration into Global Value Chains (GVCs)
- ▶ Creation of **employment** in the **formal** sector

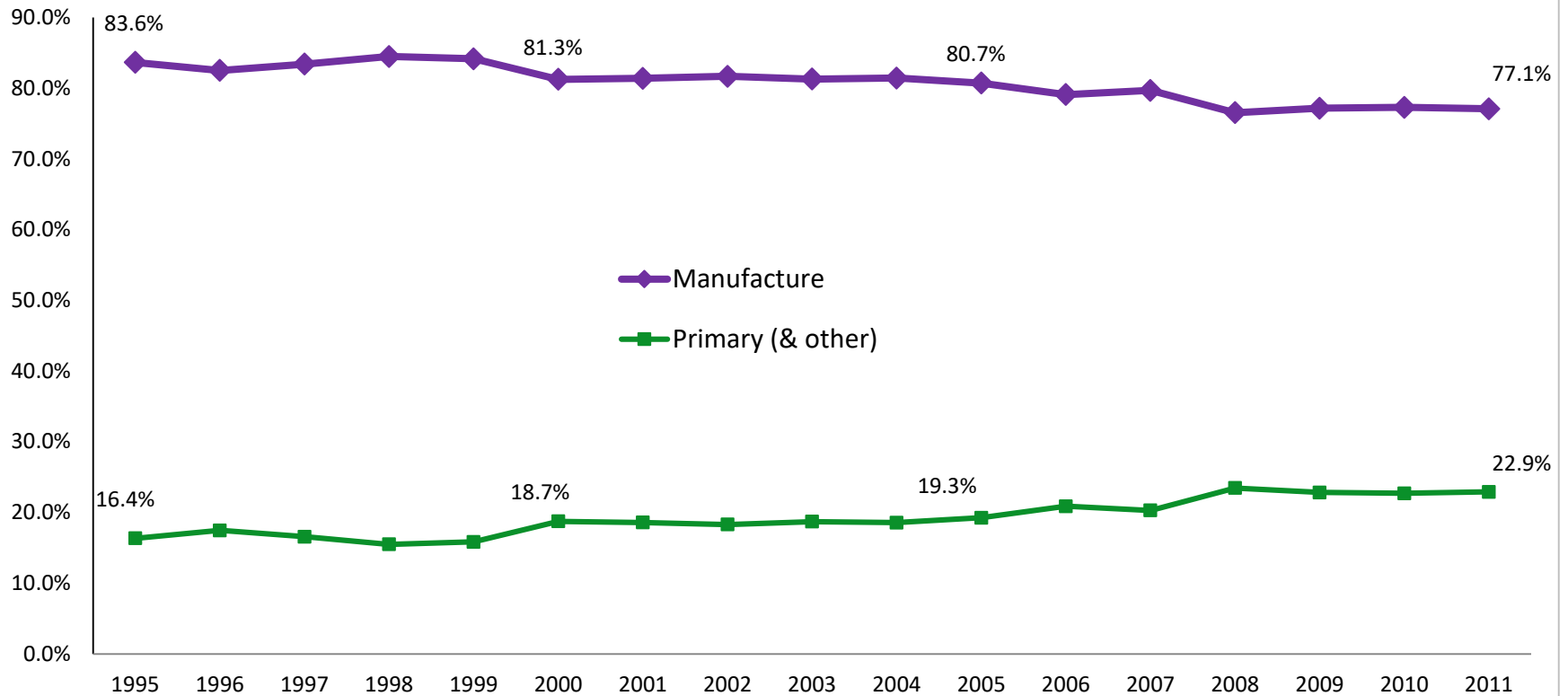
Why manufacturing?

Manufacturing's pro-development features

- ▶ Source of **innovation** and **productivity growth**
 - ❖ R&D activities, economies of scale, “learning by doing” (*dynamic efficiency gains*)
- ▶ **Diffusion of new technologies** into other sectors (*productivity spillovers*)
- ▶ Strong connectedness with other sectors („**forward and backward linkages**“)
 - ❖ Important source of both demand and inputs for other sectors
- ▶ High(er) **income elasticity of demand** for industry products (Engel's Law)
- ▶ Potential for creation of **productive employment**
- ▶ **Structure of world trade**: Tradeability, less volatile world market prices

Manufacturing goods dominate merchandise trade

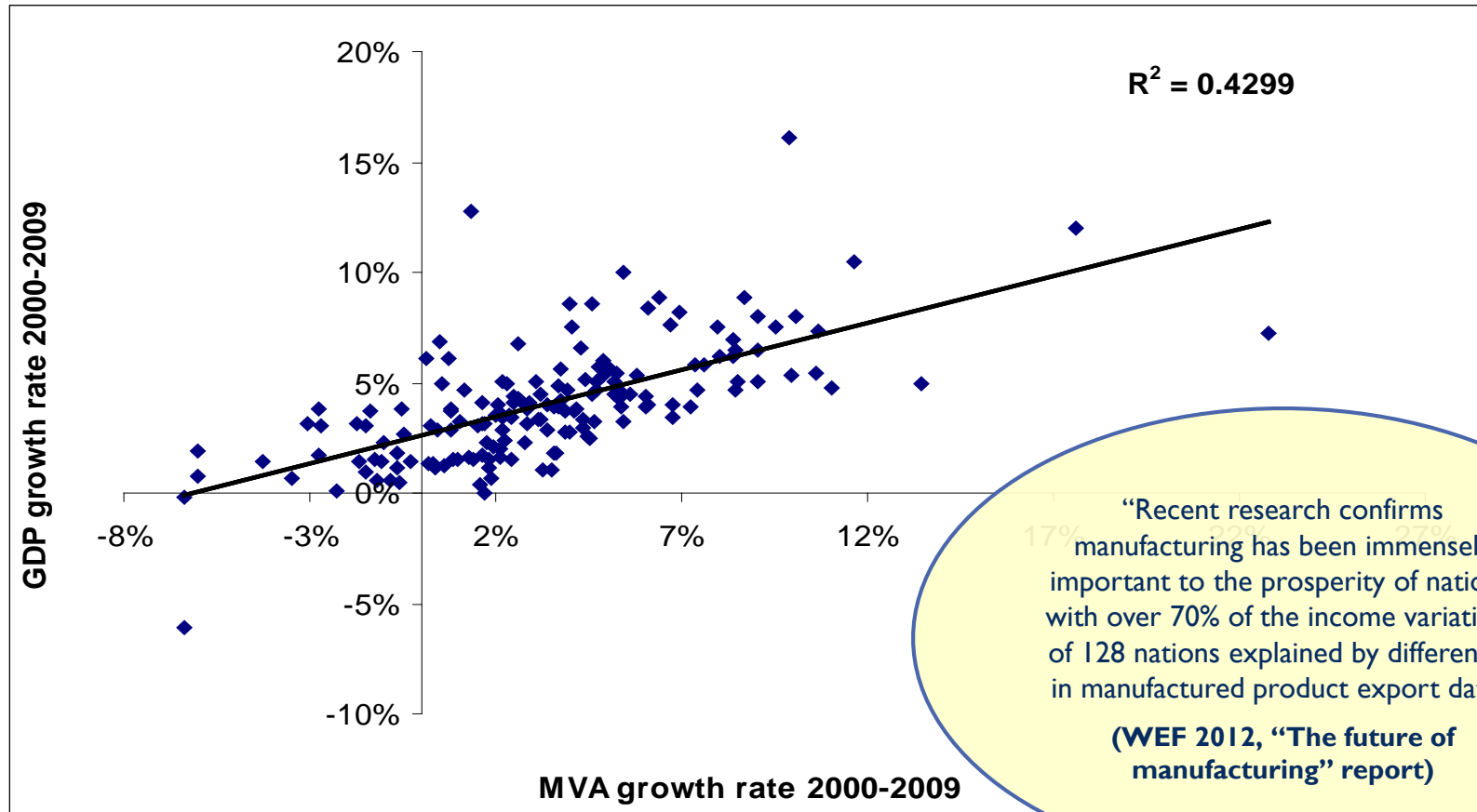
Share of World Merchandise Trade (1995-2011)



Source: UNIDO

Industrialization and development (1)

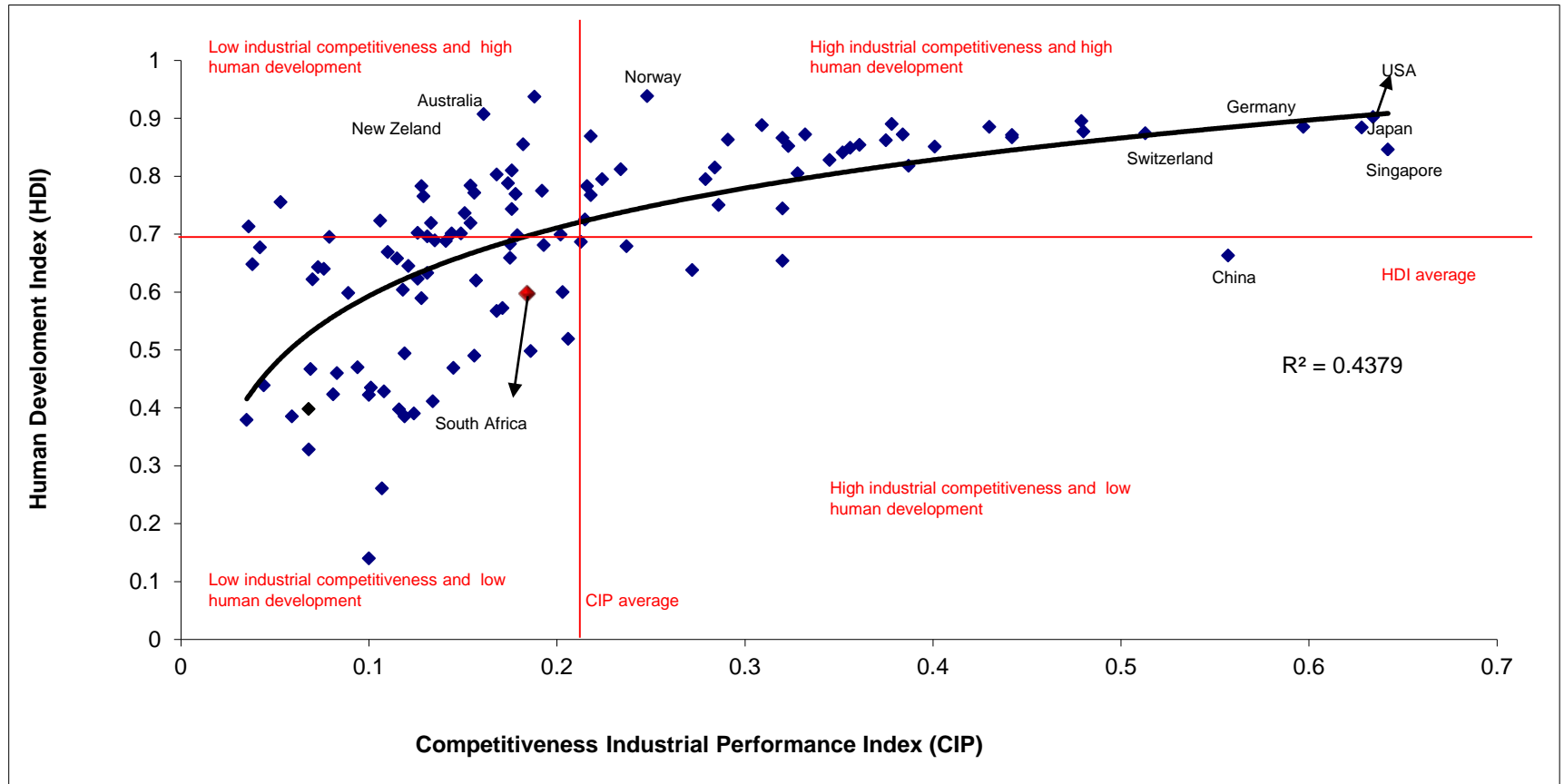
Industrialization is important for economic growth



Source: UNIDO (2009)

Industrialization and development (2)

Industrialization and the Human Development Index



Source: UNIDO (2009)

2. Industrialization in the 21st century

Context, challenges, opportunities

Context



- ▶ Vision & challenge: Achieve “inclusive and sustainable industrial development” (ISID)
- ▶ Realization: Not only **quantity** (growth) but also **quality** of economic and industrial development matters
- ▶ ISID is to contribute to avoid:
 - ▶ “Jobless growth” & inequality
 - ▶ Resource depletion
 - ▶ Environmental destruction
 - ▶ Formation of enclaves, economic imbalances and instability



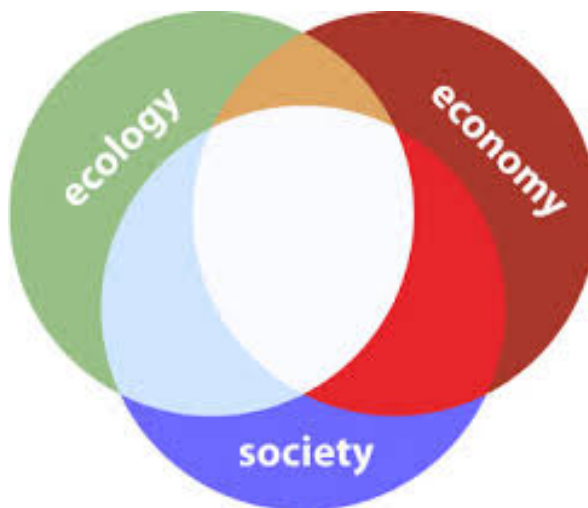
Inclusive and sustainable industrial development: What's that?

“The development of an industrial structure which creates opportunities and contributes to poverty reduction and widespread needs fulfillment through broad-based active economic participation without undermining future generations’ ability to meet their needs.”



Inclusiveness:

- Broad-based
- Labor-intensive
- Pro-poor/ poverty-reducing
- Regional equity
- Gender-balanced
- Integration of minorities and disadvantaged groups



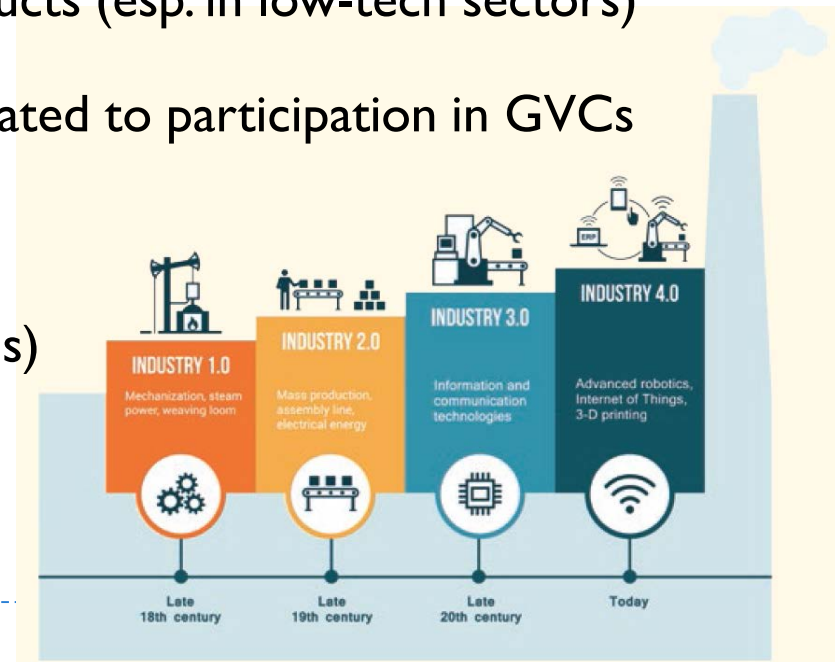
Sustainability:

- Economic (growth, resiliency, stability)
- Social
- Ecological (resource efficiency, green technologies, environment-friendly products)



Industrialization in the 21st century: Challenges for developing countries

- ▶ Achieve **sustainability and inclusiveness** (...and prove it)
- ▶ Create (decent) **employment** amidst population growth, technological trends (AI, digitalization, automation), and the rise of precarious jobs
- ▶ Intensified **competition** by emerging market economies (EMEs)
- ▶ “**Commodification**” of industrial products (esp. in low-tech sectors)
- ▶ Risk of “**shallow industrialization**” related to participation in GVCs
- ▶ **Premature** deindustrialization
- ▶ **Industry 4.0** (adoption and ramifications)
- ▶ **Policy space** (multilateral, regional and bilateral trade & investment agreements)



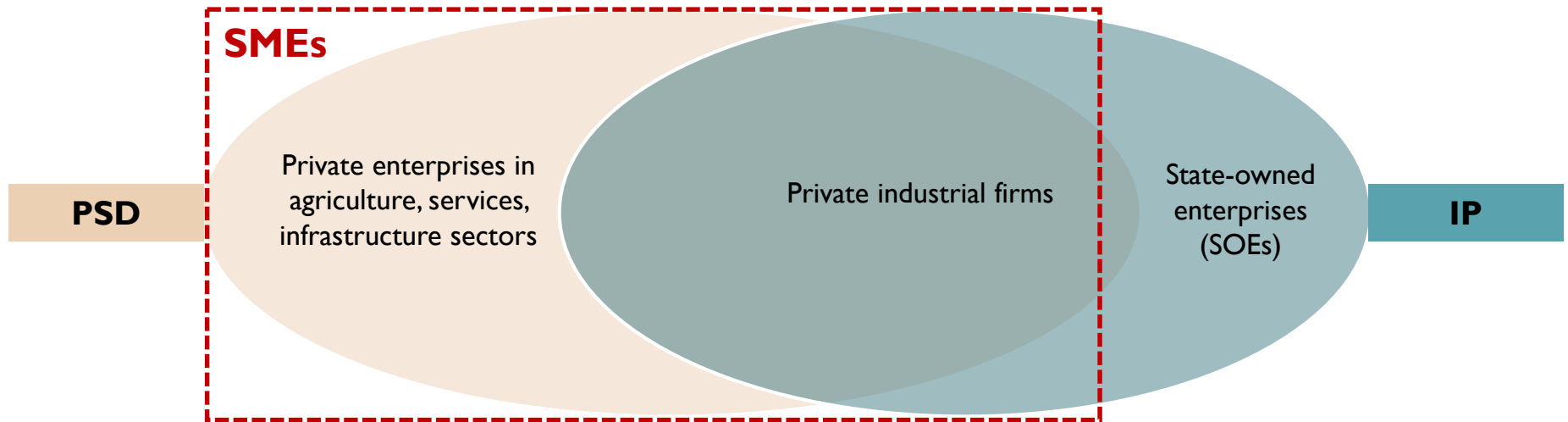
Industrialization in the 21st century: Opportunities for developing countries

- ▶ Better policy-making
 - ❖ Prospects of **evidence-based policy-making** thanks to availability of data and possibilities for information processing (IT, digitalization)
 - ❖ Access to knowledge and experience of other countries
- ▶ Processes of **production relocation** due to wage increases in EMEs, particularly China (“flying geese model”)
- ▶ **Foreign direct investment:** growing share going to developing countries
- ▶ Integration into and upgrading within **GVCs**
 - ❖ Focus on parts of production process without having to build an entire industry
- ▶ Technological **leapfrogging**
- ▶ New **regional and local markets**
 - ❖ Growing middle class
 - ❖ New growth poles (China, India, etc.)

3. Approaches in development cooperation

Private sector development (PSD) vs. industrialization / industrial policy

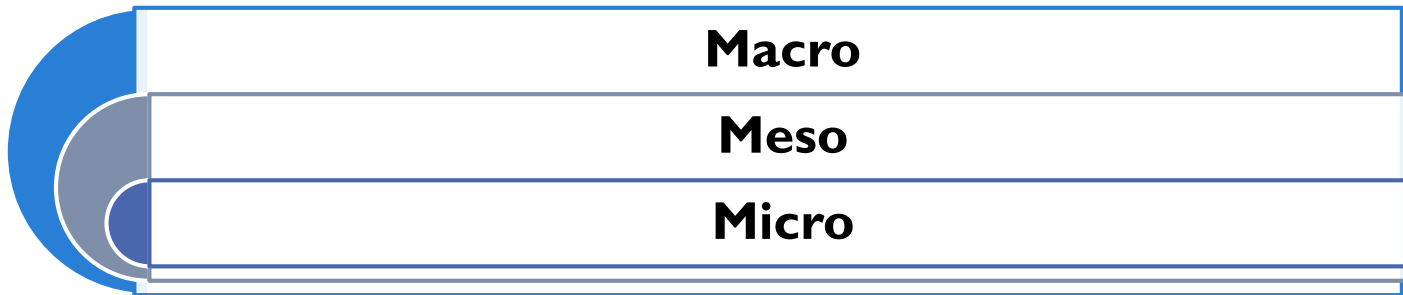
- ▶ PSD a growing priority in national economic policy and in international development assistance (ODA)
 - ▶ Funds for PSD of multilateral development banks (MDBs) increased from \$5bn. to \$40bn. between 2000-2010 and is estimated to have exceeded \$100bn. by 2015
- ▶ Private sector development (PSD) > + < industrial policy (IP)



- ▶ Diverging views on the role of the state:
 - ▶ PSD: Focus on supply-side measures; role of state primarily as regulator (business envirm., inv. climate)
 - ▶ vs. IP (broader): also includes demand-side measures & additional roles of state as producer, consumer and financier

Approaches in development cooperation

Interventions at 3 levels:



Ex. GIZ PSD program Myanmar

Macro: Capacity-building + advice to policy makers

Meso: Work with business associations

Micro: Support to firms

Ex. World Bank

Macro: Advice on investment climate, regulatory / business environm. (e.g. FIAS, Doing Business)

Meso: Support to competitive industries / sectors (e.g. CIIP)

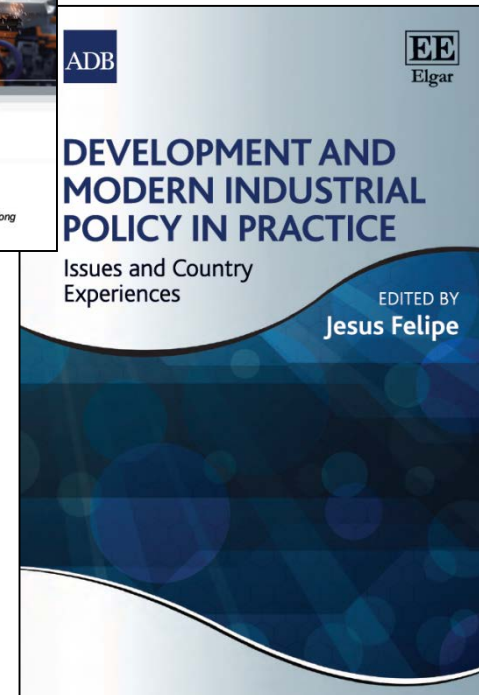
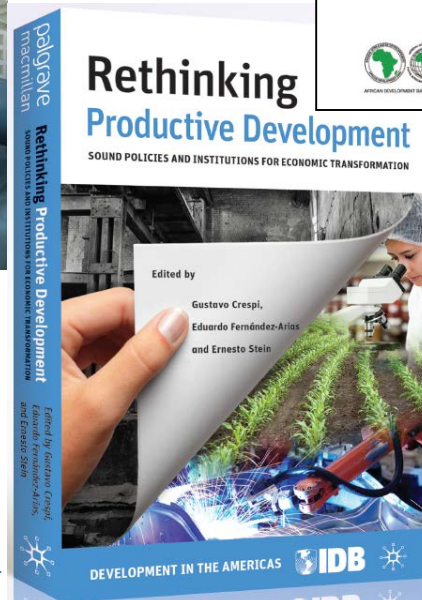
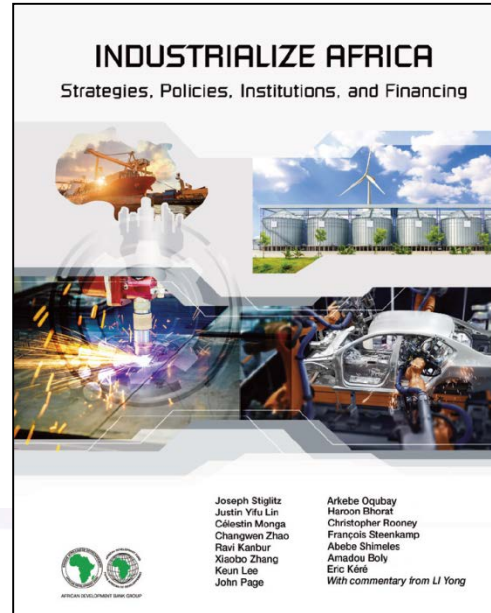
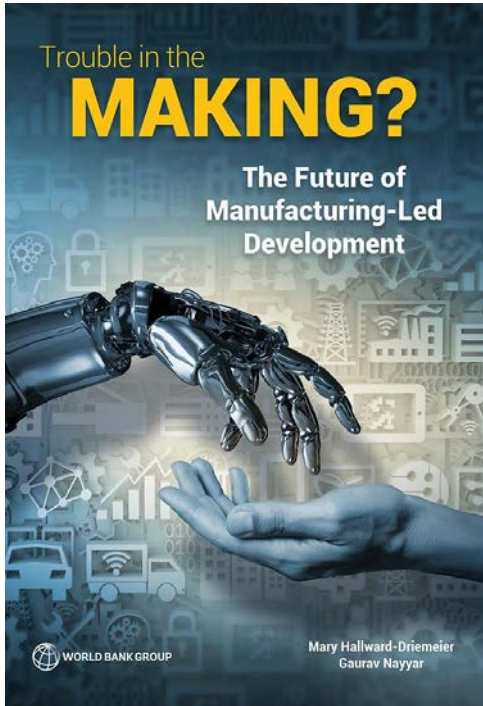
Mikro: Finance and capacity-building for businesses

Support for industrialization by MDBs (1)

MDB	Strategy	Policy	Organizational entity	Targeted Programs
World Bank	X	X	✓ (2 GPs in EFI VP; IFC)	✓ (FIAS, CIIP)
Asian Dev. Bank	~ (PSD strategic framework, 2006)	X	~ (PSOD)	X
Inter-American Dev. Bank	X	X	~ (IIC; Competitiveness, Techn. & Innovation Div.)	X
African Dev. Bank	✓ (High 5s)	✓ (Industrial Sector Policy Guidelines; PSD Policy)	✓ (VP Private Sector, Infrastruc. & Industrialization; Dept. for Industrial and Trade Development)	~ (6 'Flagship Programs')

- ▶ Most MDBs do some **knowledge work and advice** on the topic, and to some extent also **technical assistance** incl. **capacity-building**
- ▶ However, **systematic approach** (based on strategy, policy, institutional setup) is **rare**

Recent MDB knowledge products



Support for industrialization by MDBs (2)

▶ **World Bank**

- ❖ Two *Global Practices* under the *Equitable Growth, Finance and Institutions* (EFI) Vice-Presidency
- ❖ Work through country offices and through programs (e.g. FIAS, CIIP)
- ❖ Direct financing to businesses through IFC, the World Bank Group's private sector arm

▶ **Asian Development Bank (ADB)**

- ❖ No specific strategy or objective on industrialization, nor is it a “focus area”
- ❖ Private Sector Operations Department (PSOD) structures and provides financing to private companies across a wide range of sectors
- ❖ However, little goes to industry (vs. most to infrastructure and finance)

▶ **Inter-American Development Bank (IDB)**

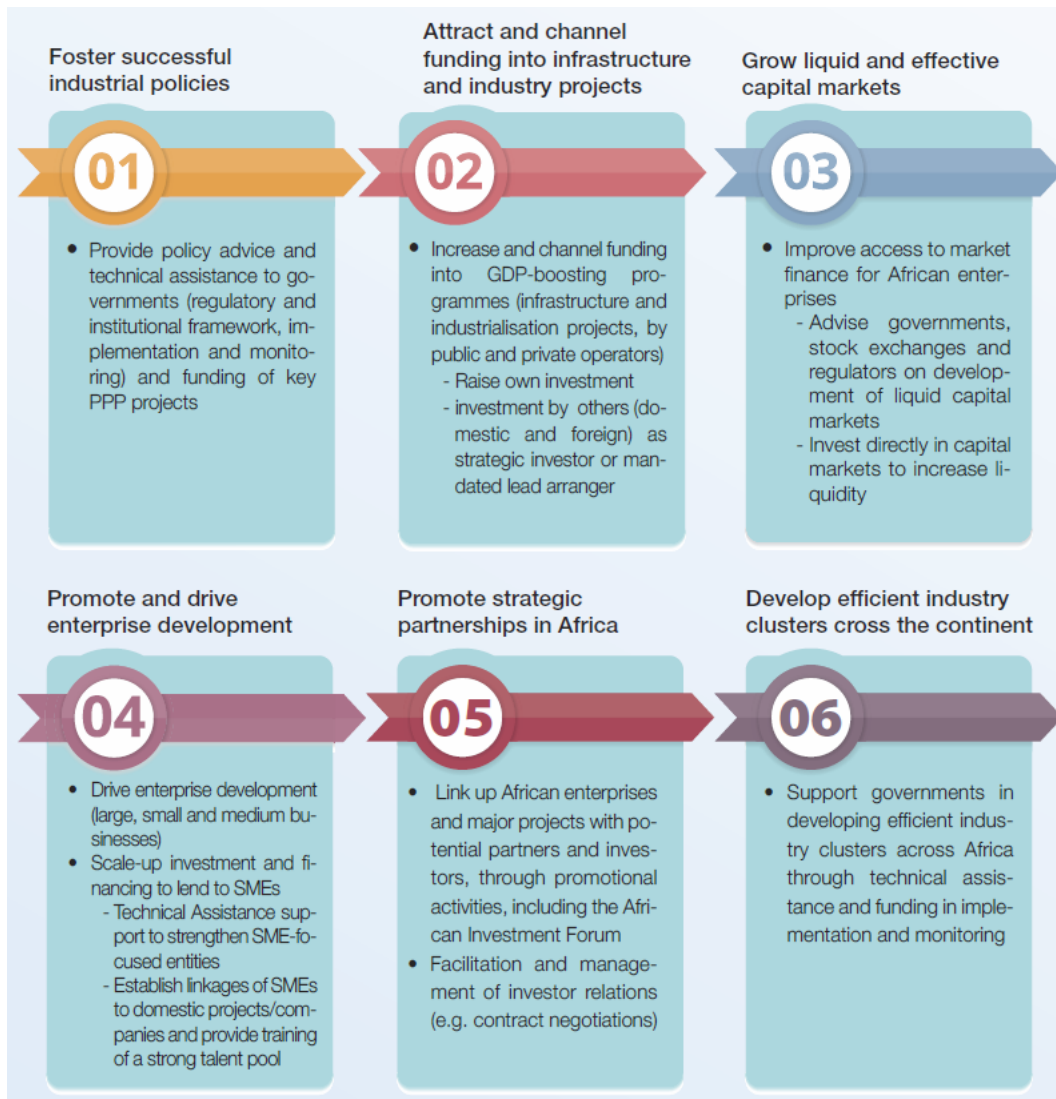
- ❖ Focus on promoting productivity
- ❖ No specific strategy nor policy; no dedicated unit nor program / trust fund
- ❖ Dispersed support for industrial sectors and firms (esp. PSD through IIC, the IDB's private sector arm), but no systematic approach
 - ❖ Most of IIC's funds have gone into infrastructure and the financial sector

AfDB's support for industrialization (1)

- ▶ Industrialization one of the “High 5s” priority areas in the AfDB's current 10-year strategy
- ▶ **Industrialization Strategy for Africa 2016-2025** (approved in July 2016)
- ▶ **Policies:**
 - ▶ Industrial Sector Policy Guidelines + PSD Policy
 - ▶ Both to be replaced by new *Non-Sovereign Operations Policy*
- ▶ **Organizational setup:** Vice-Presidency for *Private Sector, Infrastructure and Industrialisation* is in the lead
- ▶ **Implementation** (envisaged) through 6 “flagship programs”



AfDB's support for industrialization (2)



Instruments:

- ▶ Debt instruments
 - ▶ Loans / lines of credit
 - ▶ Catalytic investor in bond markets
 - ▶ Incl. syndication, co-financing
- ▶ Equity and related instruments
 - ▶ AfDB as catalytic seed fund provider & strategic anchor investor
- ▶ Trade finance
- ▶ Guarantees
- ▶ Policy-based operations (PBOs)
- ▶ Grants
- ▶ Technical assistance
 - ▶ Policy dialogue and advice, knowledge products, capacity-building
- ▶ Fee-based advisory services
- ▶ Institutional support programs

...to governments, companies, financial institutions, (equity) funds, projects

Key messages

- ▶ **Historically**, industrialization has been at the core of economic development processes
- ▶ (Late) Industrializers today face a **different context** than earlier industrializers
 - ▶ Simple emulation of earlier industrialization strategies will not work
- ▶ Recently, **renewed interest** in industrialization and acceptance of related public policies
 - ▶ Private sector development and (or vs.?) industrial policy
 - ▶ Growing support through MDBs – using a range of instruments, but not always very systematic
- ▶ Going forward, developments related to **industry 4.0** will crucially shape industrialization possibilities and trajectories



Thank you

6th Economic Development Days – May 2018

Vienna University of Economics and Business (WU Wien)