Centre for Sustainable Structural Transformation
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Industrial policy, sustainability and politics

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16 – 20 March 2026, Spring School – *Political Economy of Production and Labour*

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Finanziato dall'Unione europea NextGenerationEU | Ministero dell'Università e della Ricerca | Italiadomani | merita | Scuola Normale Superiore

Lecture outline

Part 1: Framing industrial policy: history, theory and practice

- in the history of capitalism, with a focus on recent past and present geopolitical conflicts
- in structuralist-evolutionary economics and the political economy of development literature
- in the policymaking practice, with a focus on variety of instruments and the political economy design of industrial policy

Part 2: Intersecting politics of industrial decarbonisation and labour in the global south

- Climate change and industrial decarbonisation: Energy and Material Intensive Industries (EMIIs) as systematically significant sectors
- Different and interrelated dimensions of sustainability: South Africa as a paradigmatic case of intertwined crises involving ecological, social, political and economic issues
- Intersecting politics and impact on labour: States' industrial policy, MNCs strategies, and financialisation of non-financial corporations

PART 1 – Industrial policy

Framing industrial policy:
history, theory and practice

Industrial policy in the history of capitalism

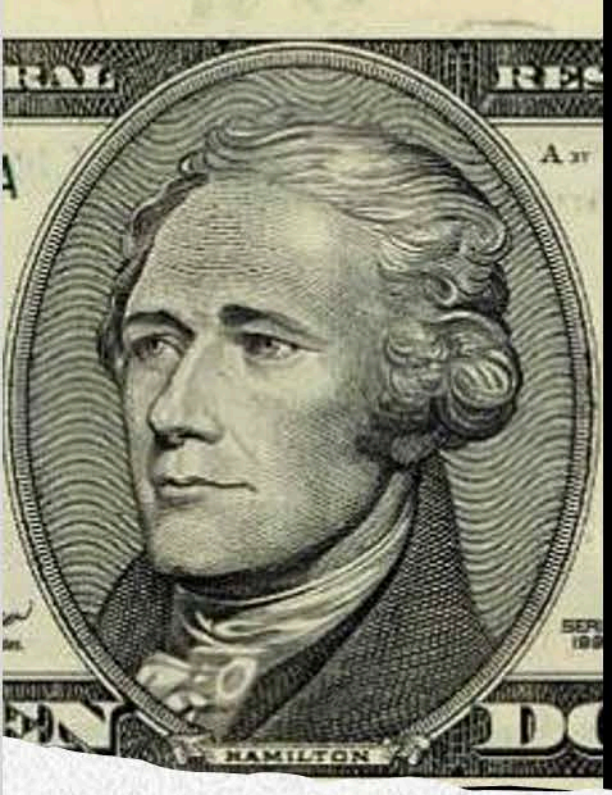
- **Industrial policy (IP) is back? In fact, it never left, it was simply implemented in disguise**

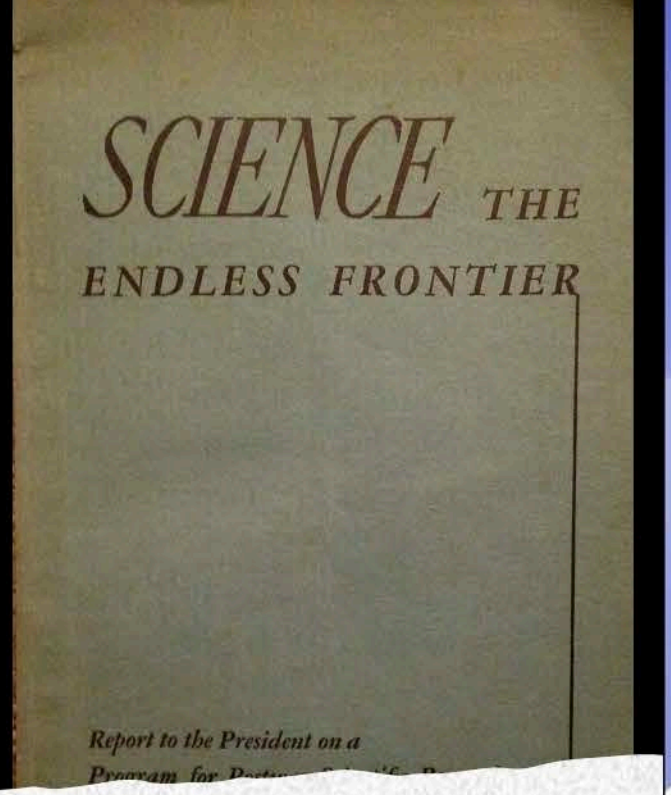
It was only in the case of the majority (but not all) of the weaker economies between the 1980s and the 2010s that industrial policy was massively scaled down – if not completely abandoned.

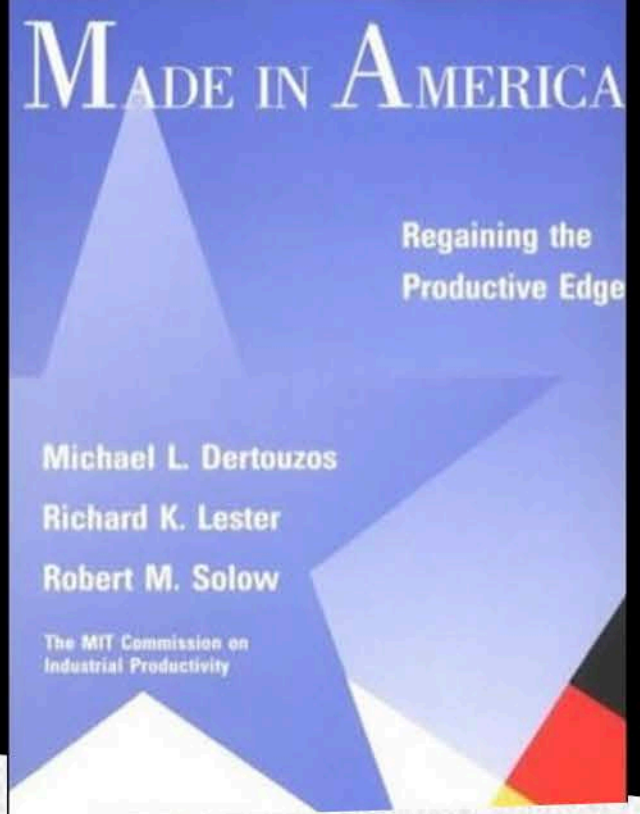
- Industrial policy is **integral to the history of capitalism, colonialism and the struggle for independence** and state formation across the global south

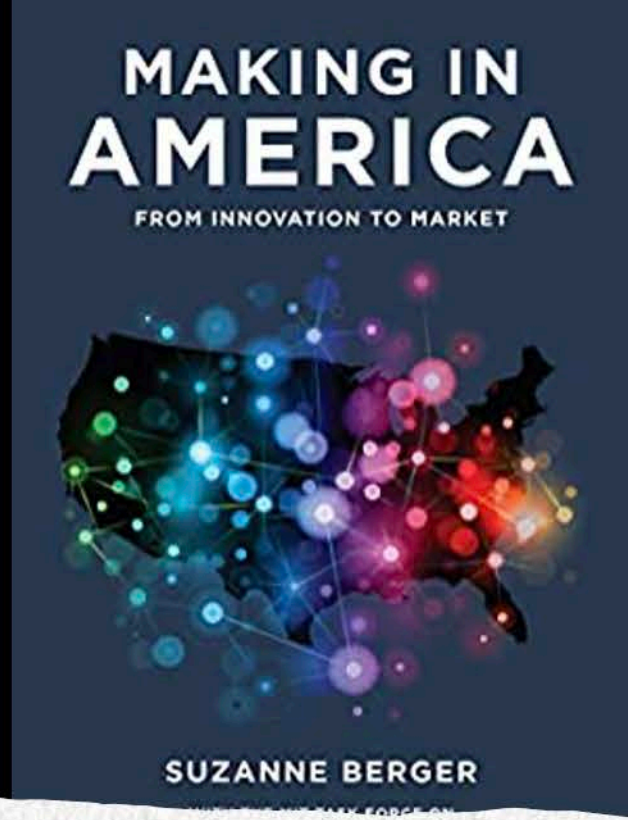
- Industrial (and trade) policy features heavily in the **pre-classical and classical political economy debates**:
  - **'Manufacturing power'** as 'fundamental condition of all higher advances in civilisation, material prosperity, and political power in every nation' (List, 1841)
  - **Kicking Away the Ladder** as a central to imperialism and underdevelopment (Chang 2022)
  - **Foreign trade** as an instrument of 'national power politics' (Hirschman, 1945) and how trade tensions are linked to military conflicts
  - **'Chicken and egg problem'** – development as 'how one thing leads to another' (Hirschman, 1958)

- Shifts in the industrial policy discourse and practice over the last century are due to a **sequence of global economic shocks, rising industrial competition and reconfiguration of the relative power of nations**

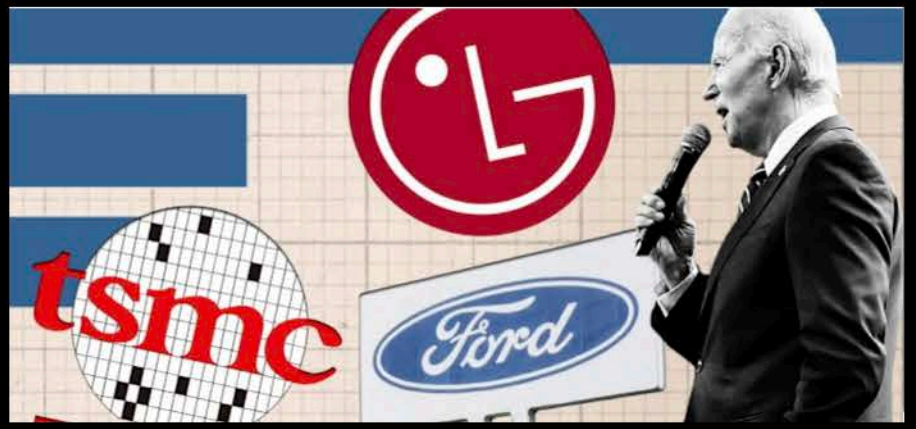








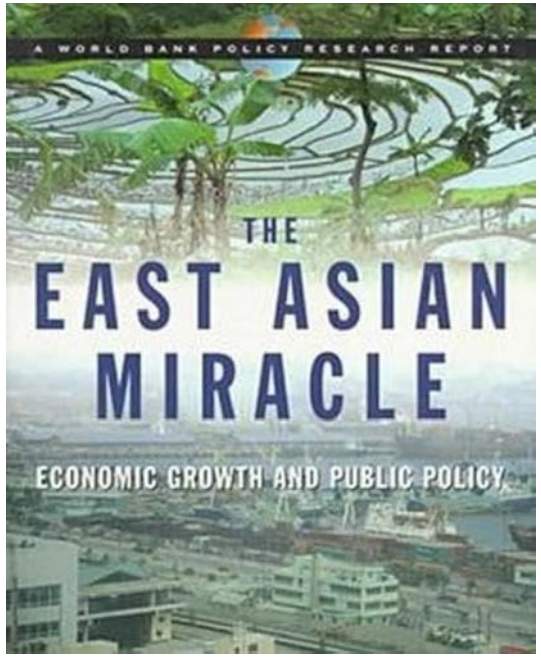
From the Hidden Developmental / Entrepreneurial State to neo-mercantilism and techno-nationalism



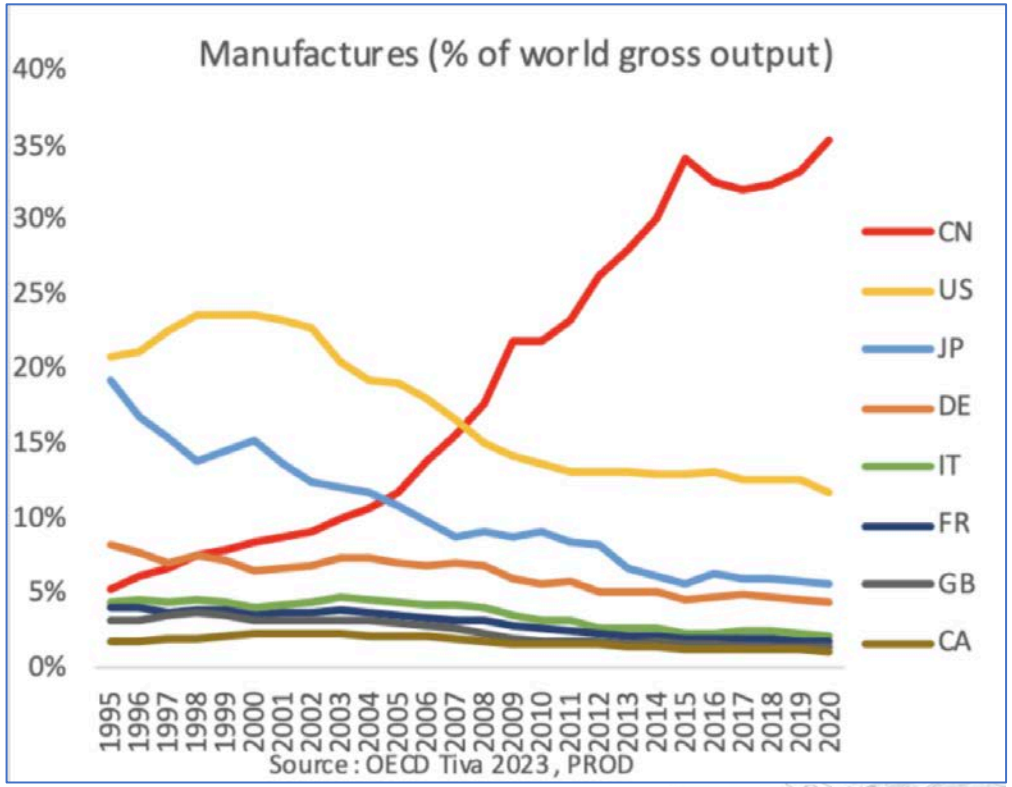
From the East Asian Miracle to the rise of China
as a manufacturing and industrial innovation power

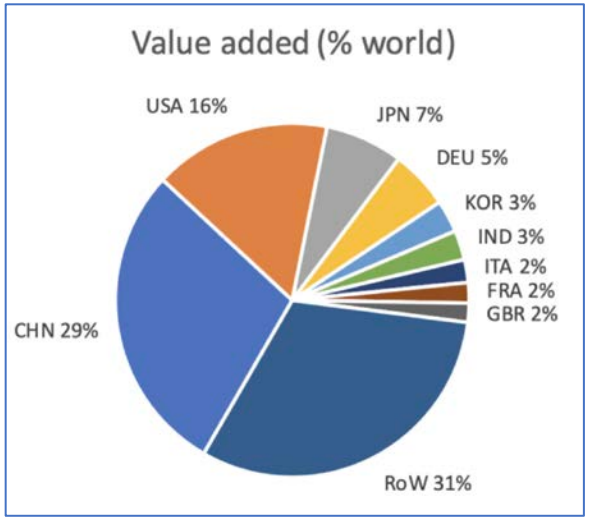
The economic rise of Japan and 'four little dragons' did not go unnoticed

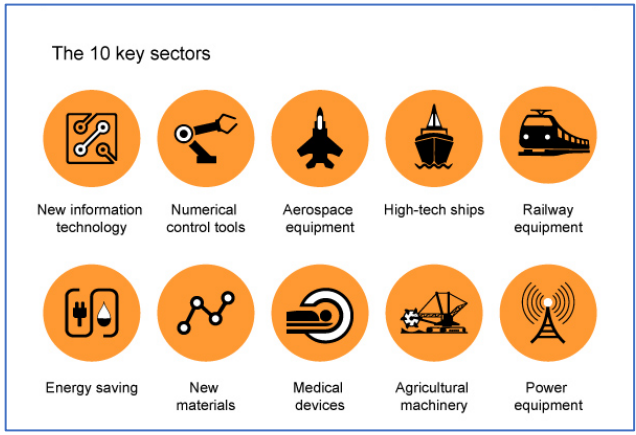
*"**Japan's rate of industrial progress** and stated economic goals should be as **shocking** to Americans **as was Sputnik**" (United States Congress House Committee on Ways and Means, 1980)*



Source: World Bank; and Andreoni et al, 2024







Source: State Council, China

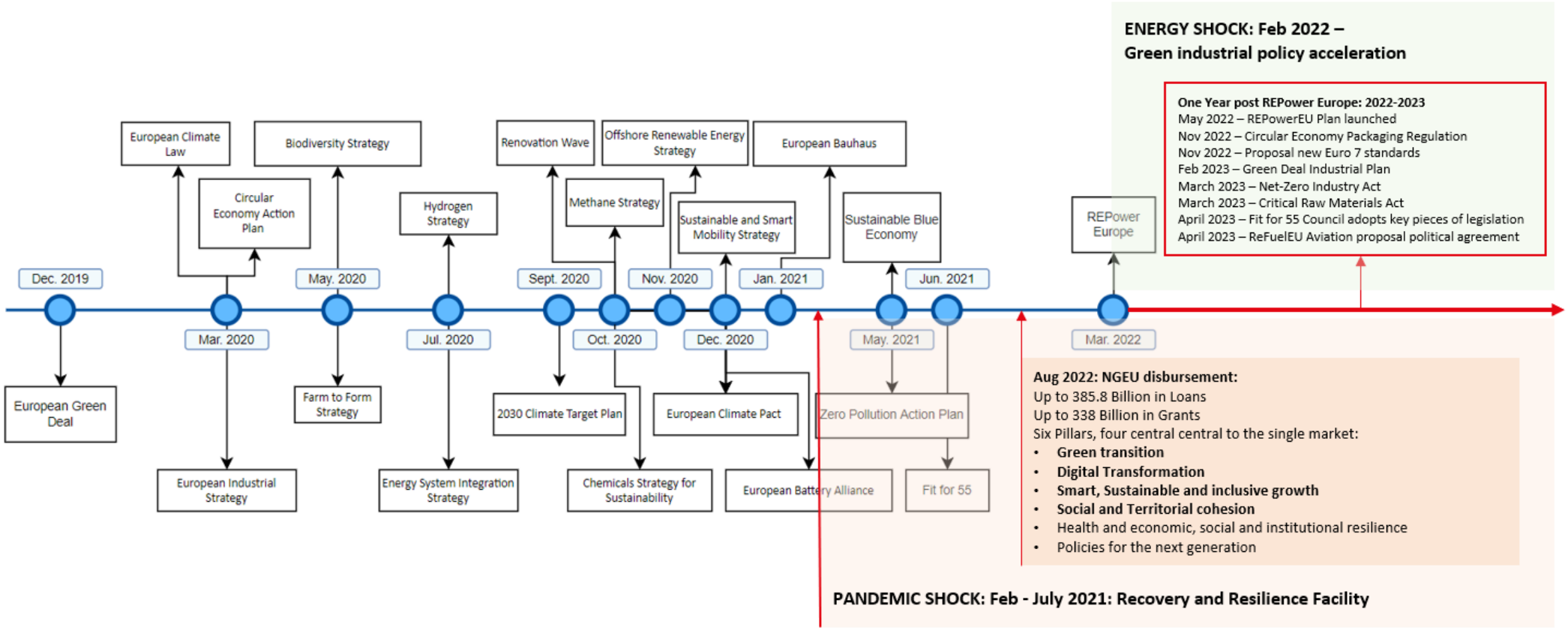
Approaching today's Industrial Policy Moment:
Crises, competition and **industrial policy 'hybridization'**

- **Global financial crisis of 2008** as a **first shock to the US-led international order** (de-industrialisation, structural deficit) accompanied by the **austerity response in the EU** (and the exacerbation of intra-EU divides) and the **rise of China** as a production and increasingly knowledge superpower

- **Until 2015, industrial policy responses were mainly oriented towards the domestic economy within the boundaries set by multilateral institutions** – WTO, IMF, World Bank, etc. despite the US started realising that its **'co-dependence relationship' with China** was problematic (China as a source of cheap imports but also as an increasing challenge to domestic industries with more advanced tech)

- **The 2015 was a key turning point with the Paris Agreement and the Made in China 2025, with domestic and international drivers of industrial policy becoming increasingly intertwined**
  - **US Industrial policy as response to 'security threat':** First Trump in the US, followed by Biden (continuity and change – Defence Act, Chips Act, Critical Minerals Act, IRA) and new trade war
  - **EU Industrial policy as response to 'climate change' and need for 'strategic autonomy':** the Green Deal (2019) and a series of reactive measures (while increasing fragmentation in the single market, and deployment of 'instruments without strategies' in most country members)

From the Lisbon Agenda to the Green Deal/Strategic Autonomy:
Reactive and fragmented industrial policy in the EU



Source: Author based on EU DG GROW Policy Data

The Industrial Policy Moment: 2015 >

Evidence on instruments use and policy mix

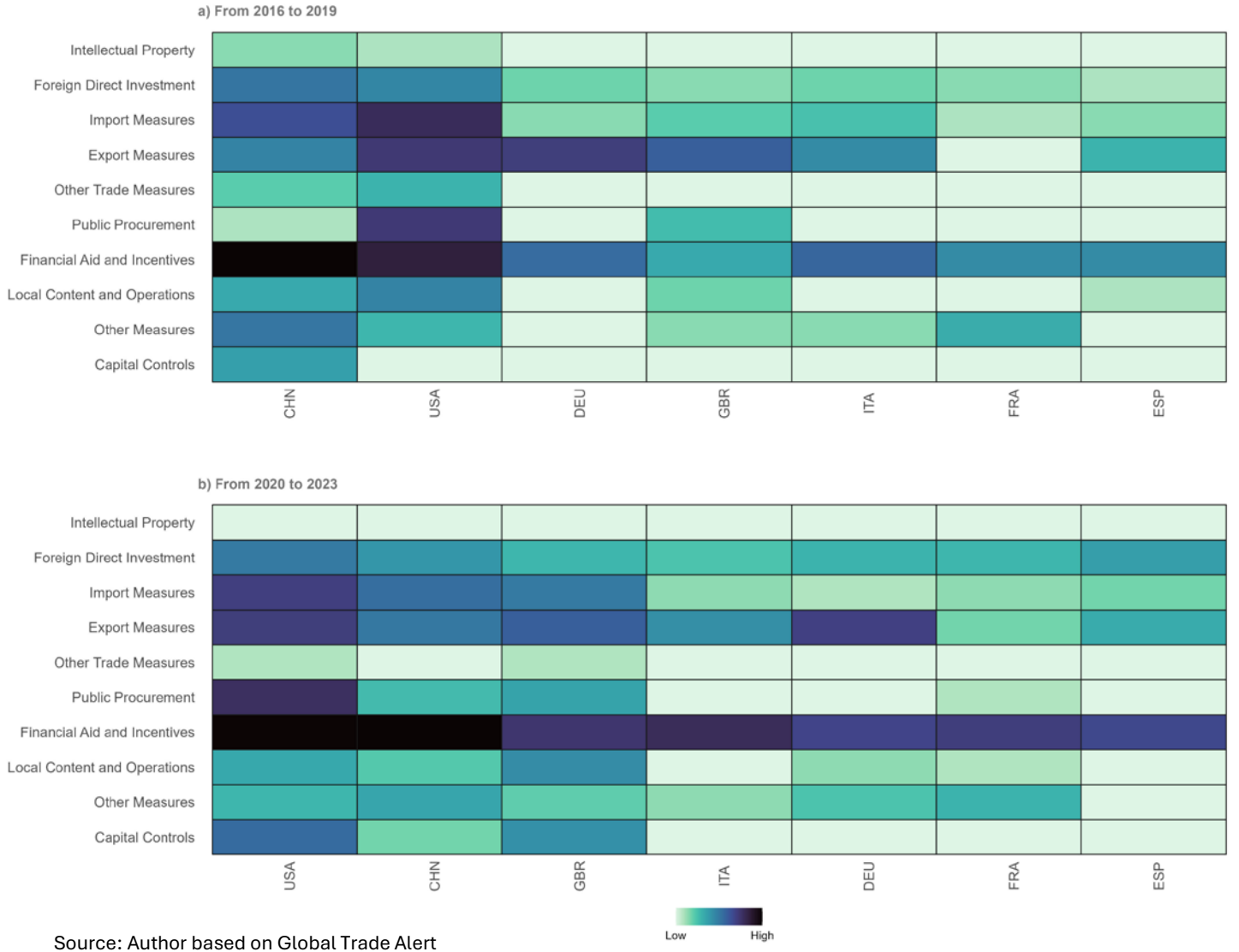
- **Increasing funding** allocation and deployment of the **full spectrum of industrial policy instruments** (financial, fiscal, regulatory, …)

- **Industrial policy as chains of strategic reactions:** tit-for-tat, weaponisation of critical minerals and energy, chips war … up to recent geopolitics and trade / military conflicts)

- Increasing **need to govern the interactions with other policy domains**
  - ➢ Industrial-Energy Policy
  - ➢ Industrial-Competition Policy

- Beyond individual IP instruments: **Industrial policy as a 'package of interacting measures' which are functionally integrated through policy alignment and coordination**

Industrial policy across superpowers (with the EU four main economies)



Source: Author based on Global Trade Alert

Industrial policy functional taxonomy: rationales and instruments in a policy mix

Narrow market failures rationales

from *neoclassical economics*

Broader set of IP rationales

from *structural and evolutionary economics*

+

Policy alignment
State capacity

a) **Enabling environment and 'horizontal measures'**: education, infrastructure, SMEs support, etc.

b) **Driving basic science and innovation**: financing basic science, R&D grants, etc.

c) **Regulating & shaping markets and industries:** management of competition and industrial standards (through competition policy, market regulations, carbon markets, etc.)

d) **Technology services and production-related services**: providing quasi-public goods and intermediation and access to tech infrastructure/infra-technologies

e) **Financing and financial/fiscal benefits**: specialised financing (including conditional de-risking), hybrid financing (grants/matching/subsidy/concessional loan/guarantee), financing-procurement hybrid schemes, ex-ante or ex-post incentives, etc.

f) **Controlling trade flows and market access** (tariffs and non-tariff barriers; but also export-controls of critical inputs and technologies)

g) **Controlling and creating direct demand**: procurement of goods and services, including functional procurement (also bulk procurement), preferential treatment of domestic products

h) **Direct investments and price control:** exercising direct strategic control over strategic and systemically relevant assets and technologies via SOEs, golden shares, PPPs, price controls, etc.

Industrial policy functional taxonomy: rationales and instruments

Narrow market failures rationales

from *neoclassical economics*

Markets (and prices) as main (and most efficient) coordination mechanisms in economy

- Public goods
- Externalities (often addressed by creating markets to address market failures e.g. carbon tax)

Reductionist welfarism: Pigou (1932) identified various types of 'disharmonies' in production, including industrial fluctuations and income distribution that would call for state intervention

Broader set of IP rationales

recognition of macro-industrial policy links and PE

emphasis on **new realities intrinsic to capitalism** crises

- Commitment of resources under uncertainty (investments and their coordination)
- Learning in production (productivity and industrial innovation)

- Macroeconomic management
- Conflict management

- New patters of accumulation, value creation and capture (GVCs, industry decarbonisation…)
- Financialisation
- Imperialism, old and new
- …

Commitment under uncertainty

- **Production requires irreversible commitments** to particular technologies, organisational forms, or skills.
  - irreversible commitments are made because they raise productivity, but the problem is that they make subsequent changes costly.
  - This won't be a problem if we can predict the future perfectly, but the world is highly uncertain.
- **Firms can – and do – do things to reduce the uncertainty of their environment** (e.g., M&A, formation of cartels, increase in size to increase bargaining power, or manipulation of consumer taste through advertising and brand-building).

- However, there are **things that individual firms cannot do but policy-makers can do**, in order to reduce uncertainty.
  - **Infant industry protection**, which not only enables the infant firms to survive but reduces demand uncertainty for them
  - **Market creation**, and preferential treatment in government **procurement** to domestic firms
  - **Strategic governance of competition** among domestic firms (e.g., licensing policy, sanctioning or even encouragement of cartels).
  - **Reducing uncertainty about the future evolution of technology** (by taking the lead in the development of basic technologies like in the US and China; pushing firms to form research consortia – e.g. SEMANTECH; imposing a technological standard or setting industry targets)

Examples of resource commitment under uncertainty

- Infrastructure for the green transition (e.g. high voltage grid)
- feed in tariffs schemes to create demand for green technologies (e.g. wind tech in Europe)
- covid vaccine and creation of redundant capacity for resilience
- …

Learning in production

(Babbage-Marx-Sraffa-Young-Kaldor-Schumpeter-Richardson-Penrose >>>)

- **Learning is poorly theorised in economics** and mainly understood as a process de-linked from specific production structures and activities.

- Learning is a **collective and cumulative process embedded in production structures**, involving **continuous and interdependent changes in agents' capabilities and organisational configurations**. It **also** requires investments in **material assets, including specific types of technologies, machineries and infrastructures**.

- Learning in production is at the very core of the innovation process, and is driven by:
  - **production structure-technology push dynamics** – complementarity, similarity and scale-bottlenecks
  - **Scalar production functions and Increasing returns dynamics** (internal and external to the firm)
  - **changes in both the 'quantity' of demand and the 'quality' (or composition) of demand**, which in turn is affected by changes in income distribution

An EUV (Extreme Ultraviolet) lithography machine is made of more than 100,000 parts, costing approximately $120 million

A Dutch company called **ASML** nearly exclusively makes lithography machines for chip manufacturing.

Macroeconomic management

- **Domestic macroeconomic management:**
  - ***High (real) interest rates:***
    - discourage investments in general, but it has more negative impacts on investments in the manufacturing sector (due to higher capital requirements).
    - can be countered by industrial policy measures – selective provision of cheaper loans (or priority in lending) for such industries through state-owned banks or through directed credit programmes imposed by government regulation on private banks
  - ***Effective demand, wages and virtuous cycles:***
    - Encouraged through public procurement and broader public expenditure (especially countercyclical)
    - Sustained by minimum and increasing wages, labour policies promoting accumulation of capabilities and virtuous cycles of profits-wages-productivity-innovation (see contributions by Pianta, Reljic, Guarascio)

- **International macroeconomic management:**
  - ***Access to external demand at early stages of industrialization (or small economies)***
  - ***Foreign exchange rate***
    - Undermined by currency overvaluation ('Dutch disease' across resource rich economies)
    - Negatively affecting export industries (less industries with a low-price elasticity of demand)

Conflict management

All economic policies are in the end political actions, in the sense that it is partial.

Being political, all policies inevitably involve conflicts – at least in latent forms.

Therefore, successful implementation of any policy requires successful management of conflicts involved.

As a rule, **the more targeted the policy is** (and therefore the easier it is to identify the winners and the losers), **the more immediate conflict it is likely to provoke.**

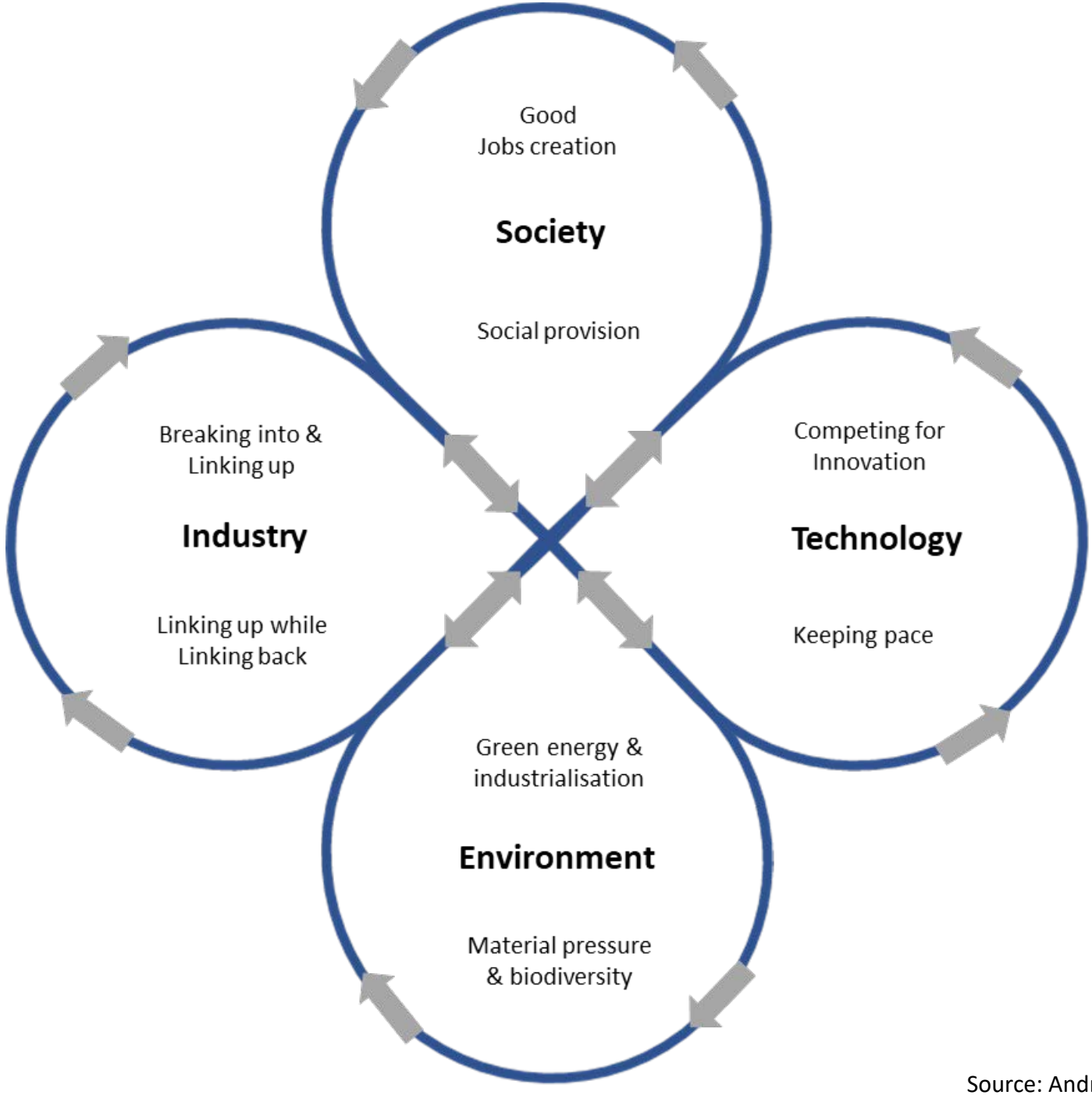
Given its targeted nature, industrial policy is the policy that requires conflict management the most.

Measures of conflict management in the domain of industrial policy:

1. **Reactive measures** (e.g. temporary protection/subsidy, bail out, nationalization, …)
2. **Anticipatory measures** (e.g. setting M/Long term standards on Co2 emissions; providing social security through welfare state provision, active labour policies, etc.)

Conflict management:

Looking for virtuous cycles and overcoming trade-offs



Source: Andreoni, 2025

Industrial policy as a 'political economy design process': Reciprocal control and commitment mechanisms (Amsden, 2001)

A variety of **Reciprocal Control and Commitment Mechanisms (RCCMs)** with associated conditionalities, eligibility criteria (ex-ante), performance standards and discipling mechanisms (ex-post) should be used to increase the effectiveness and additionality of industrial policy instruments.

RCCMs perform several functions:

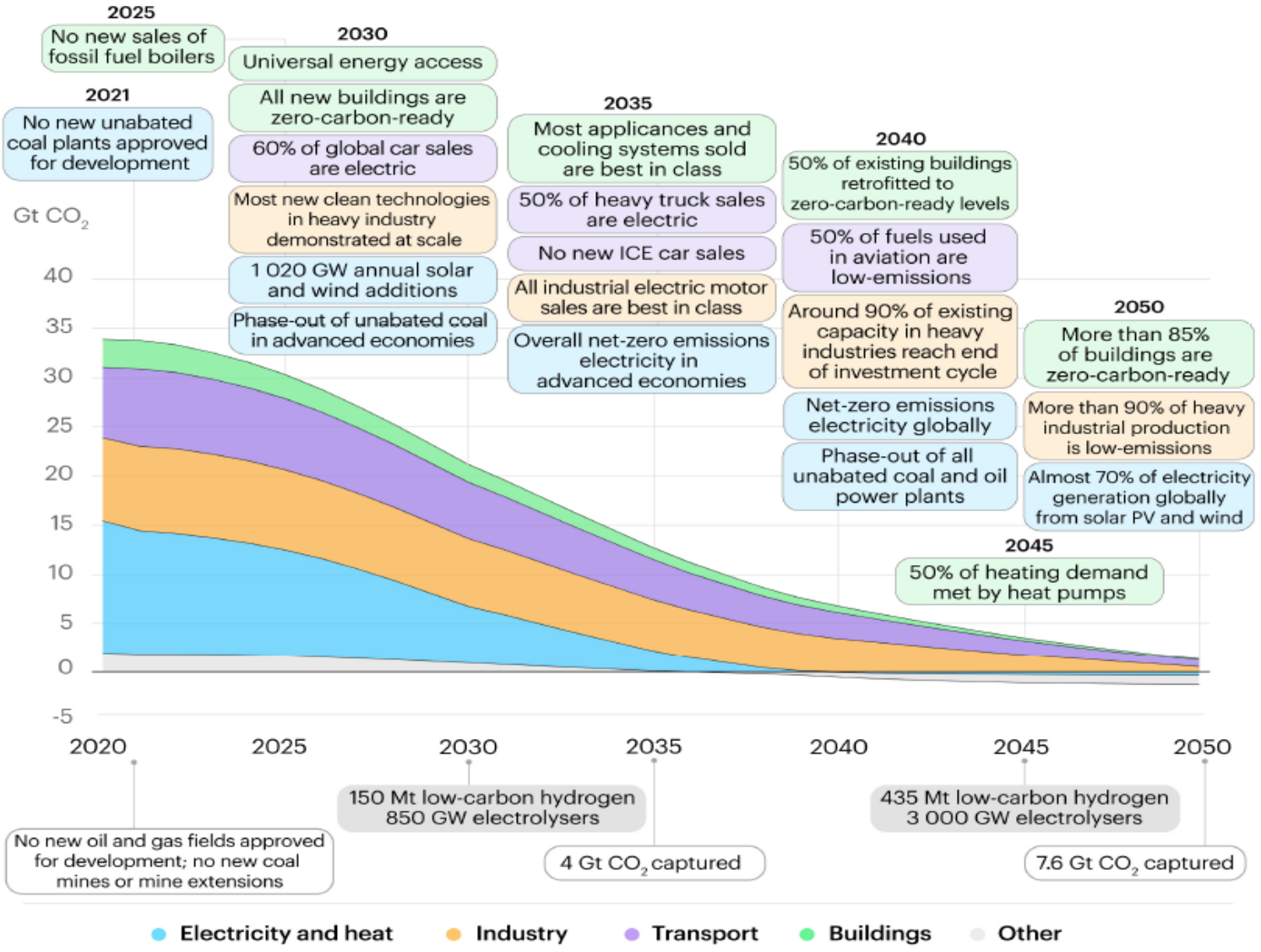
- **Designing for differences** (calibrating support taking into account firms and sectors differences)
- **Self-selecting via eligibility criteria** (e.g. comparison between China's InnoFund and South Africa's MCEP)
- **Meeting performance requirements** (and providing dynamic incentives/support to performing firms)
- **Aligning policy instruments** (by setting related conditionalities across objectives or access to support)
- **Mimicking competition** (especially when domestic markets and industries are not developed)
- Others …

Part II – Sustainability and politics

Intersecting politics of industrial decarbonisation and labour in the global south

South Africa as a paradigmatic case

Climate Change & Green Transition Imperative



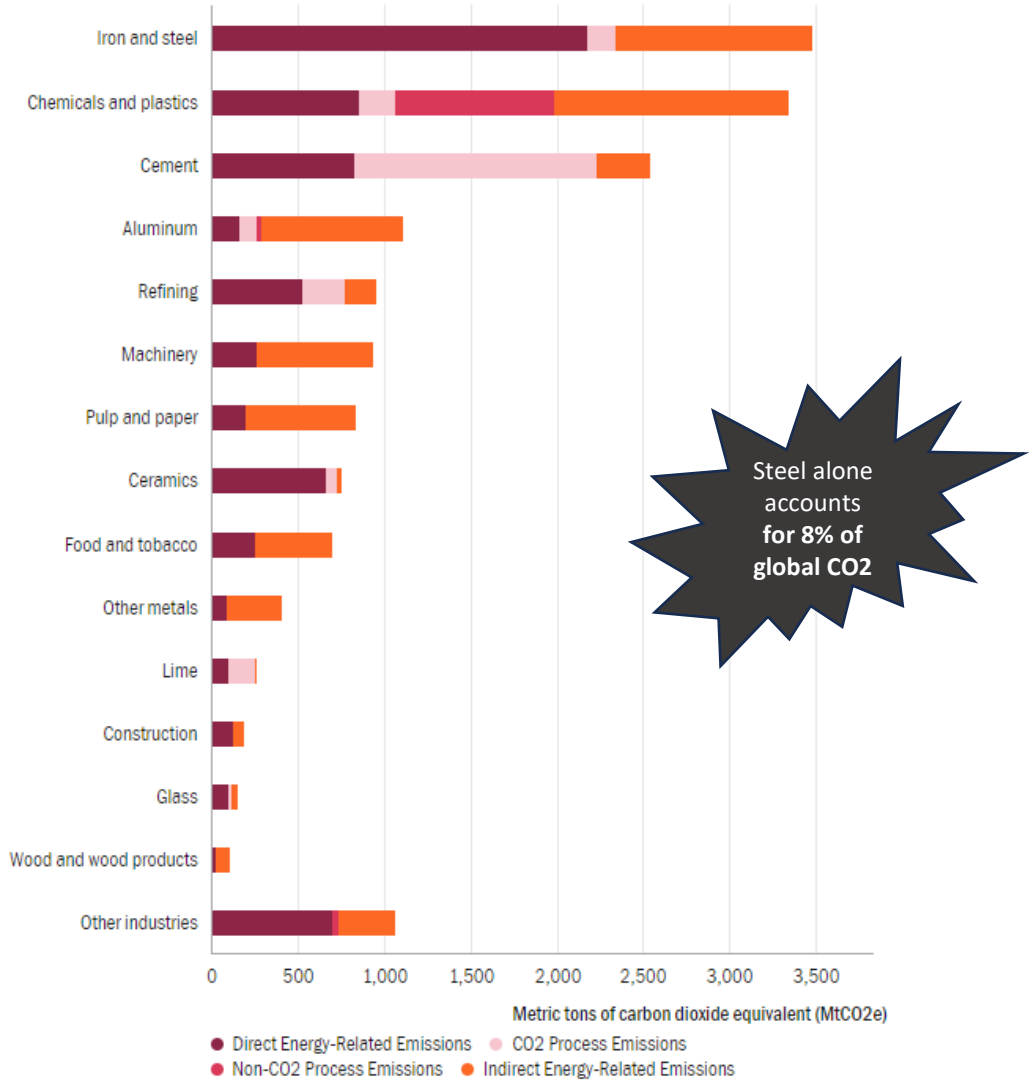
IEA Roadmap to Net Zero by 2050

- Investment scale/finance challenges
- Technology/industry specific challenges
- Political/geopolitical challenges

➢ Paris Agreement and COPs failures

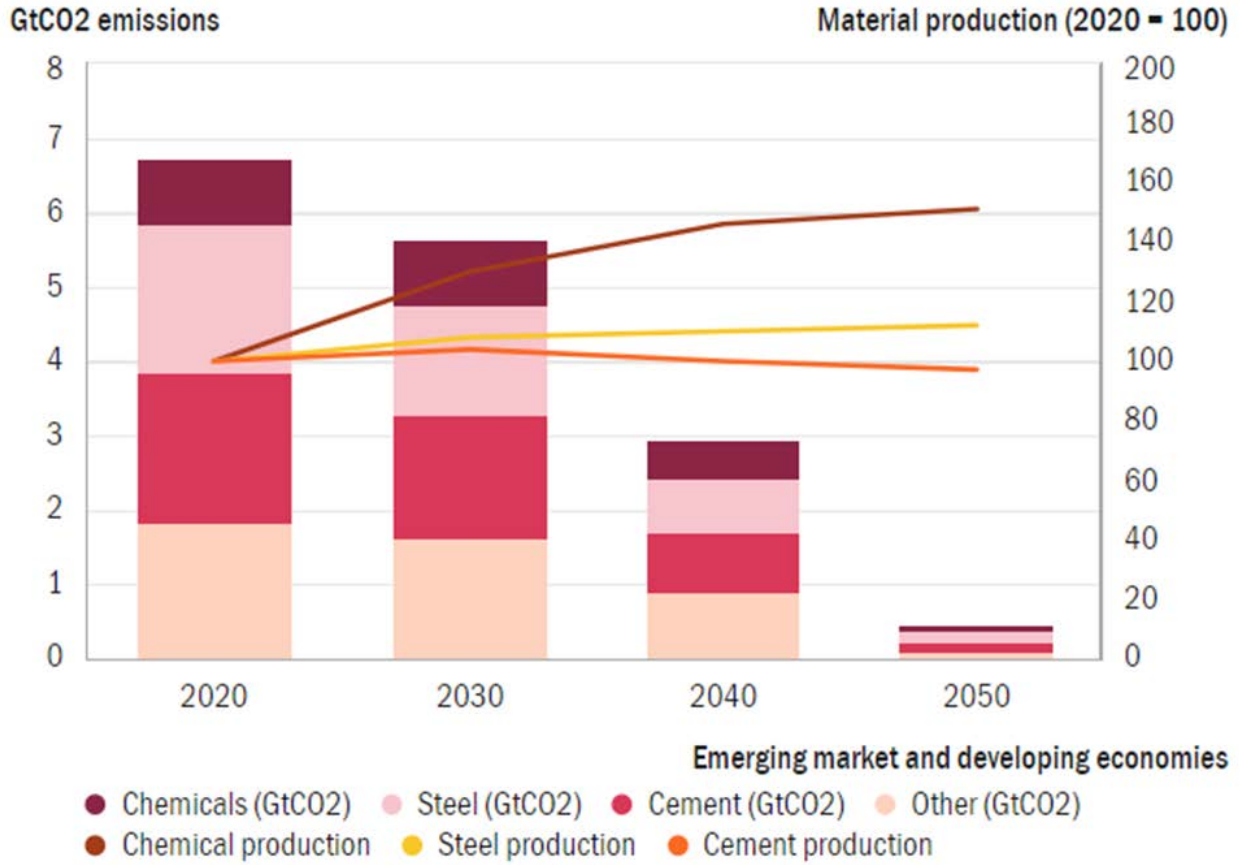
➢ Country (and regional) level coordination challenges – different pathways & uncertainties

Sector specific energy-material profiles



Steel alone accounts **for 8% of global CO2**

Emissions reductions required by key industries for 1.5º target



Source: Rissman et al, 2020; OECD 2024

Systematically-significant sectors (and prices)

Leontief, 1947; Sraffa, 1960; Pasinetti, 1981-1993; …; Weber et al, 2025; …)

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Fossil fuels
Coal
Oil
Gas

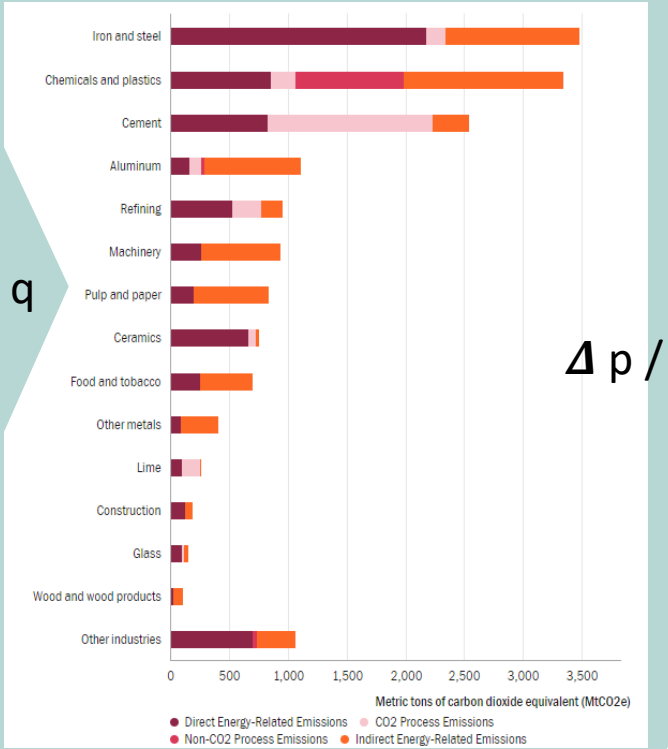
Renewable Energy
(including hydrogen)

Material inputs
(Land, water, minerals)

Electricity for direct consumption: mobility, buildings, …

Technology, quantity I/O and price feedback loops

Systematically significant sectors



Δ p / q

Δ p / q

DOWNSTREAM VALUE CHAINS

LABOUR CREATION OPPORTUNITIES & INDUSTRIAL RELATIONS ALONG VCs

FINAL CONSUMPTION OF PRODUCTS TO SATIFY SOCIETAL NEEDS (e.g. food security, climate technologies, etc)

Technology, quantity I/O and price feedback loops

Opportunities (and risks) for developing countries:
Renewable potential & natural capital (including critical minerals)

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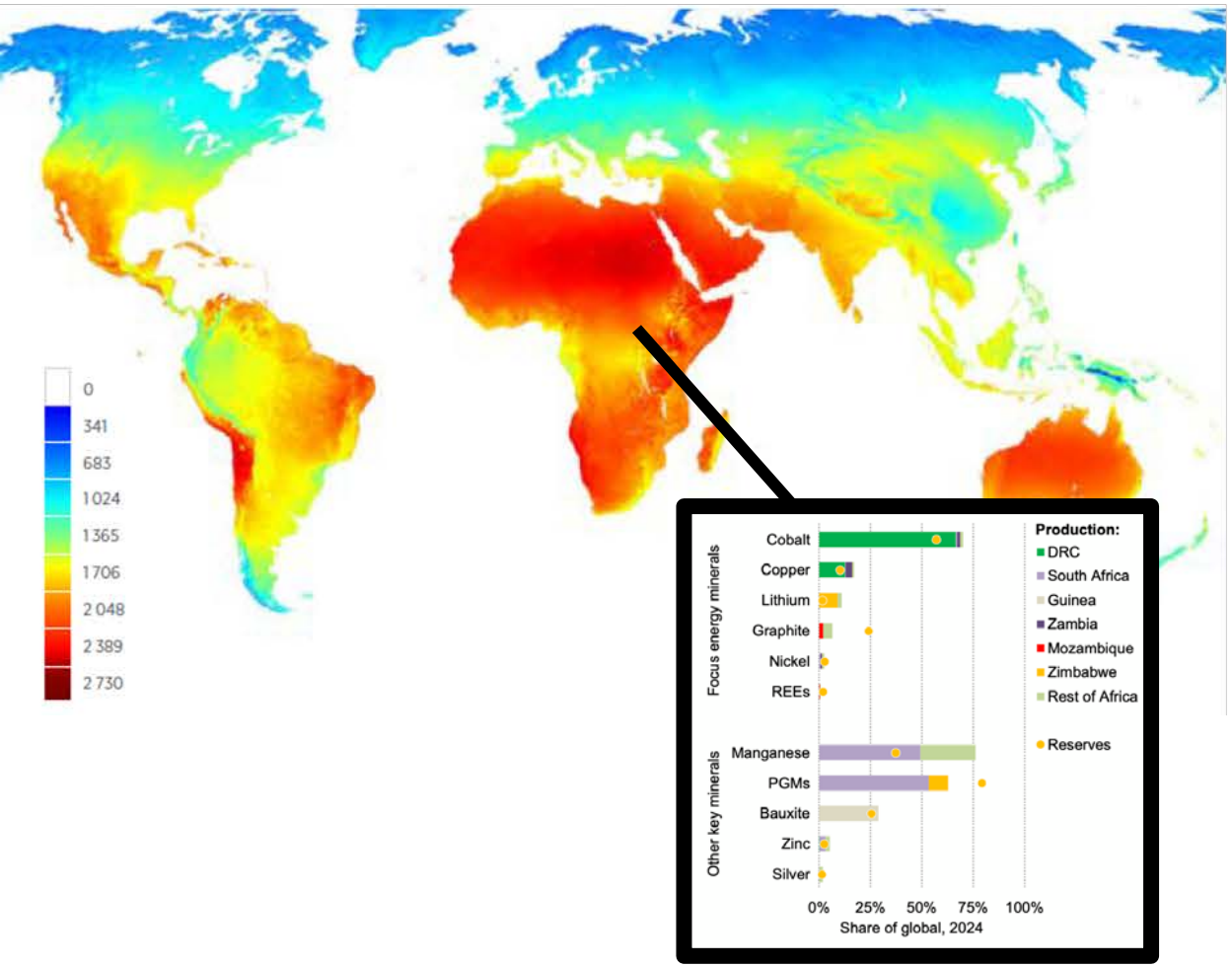
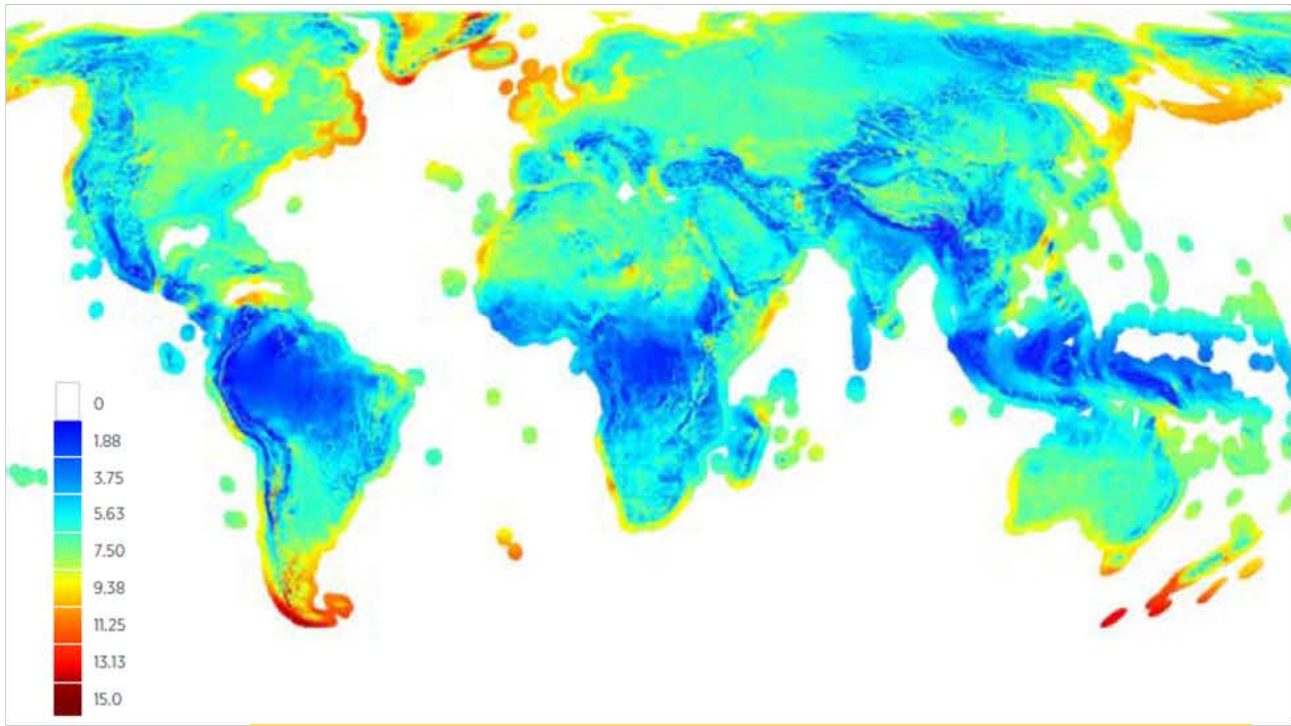
Annual average global horizontal irradiation (kWh/m2)



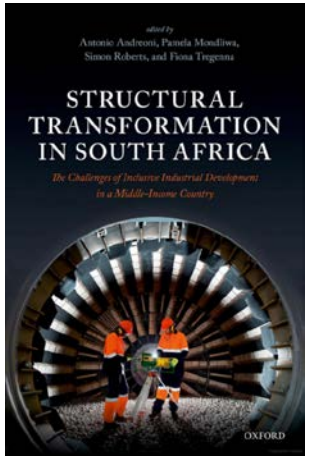
Annual average wind speed at 100 metres (m/s).



Source: IRENA

Across the global south, **ecological sustainability** (incl. climate adaptation and mitigation) is fully intertwined with **social, political and economic dimensions of sustainability**

South Africa: a paradigmatic case



- **Low productive investments**
- **Premature de-industrialisation**
- **Energy-mineral complex legacy**
- **High-level of market concentration**
- **Subordinate GVC integration**
- **Powerful MNCs**
- **High-level of financialisation**

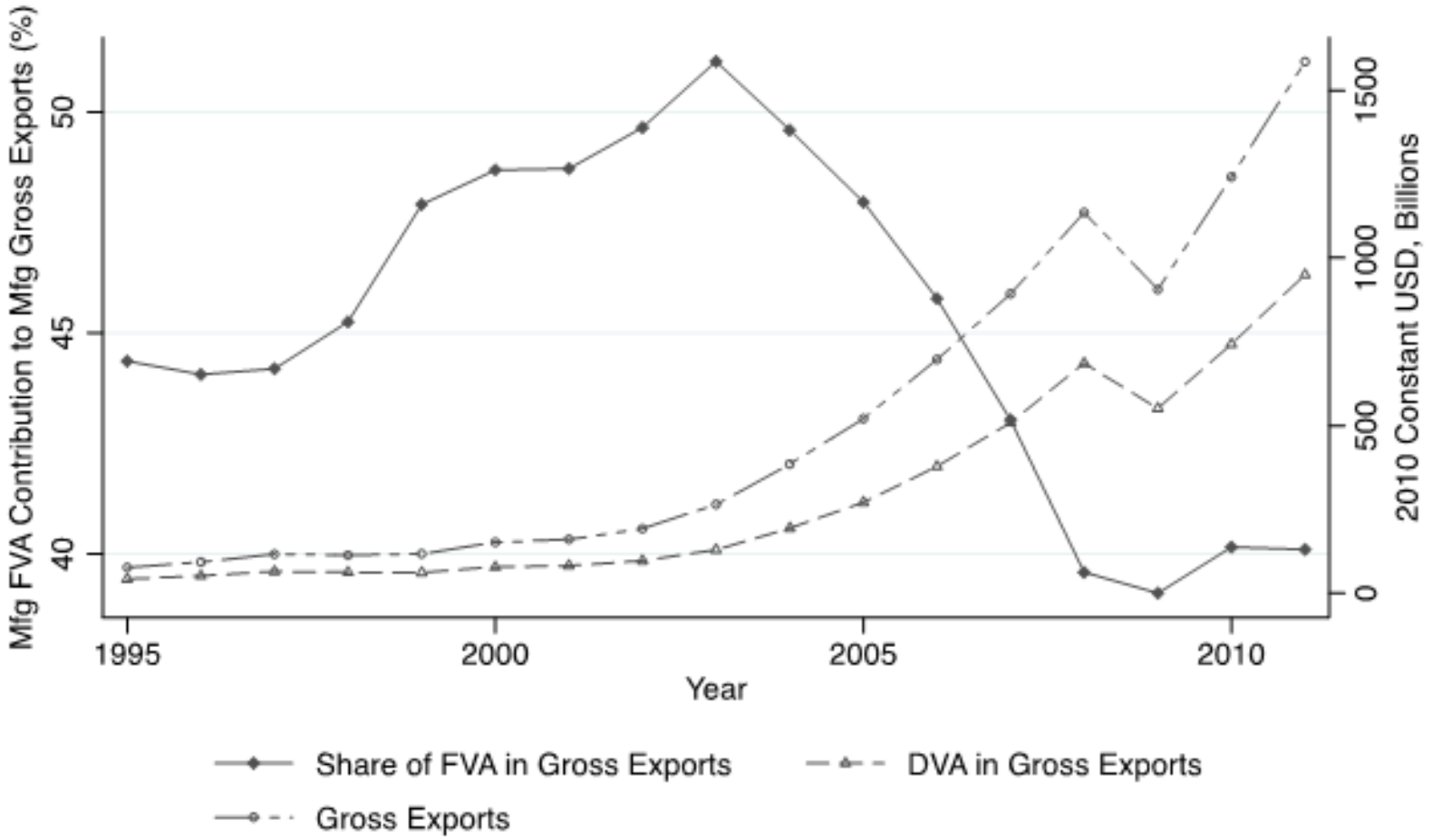
- **Increasing pressure from Chinese imports and impact on labour**

Indicator	South Africa	Brazil	Indonesia	Vietnam	Malaysia	Middle-Income	Upper-Middle Income
GDP (constant 2015 US$ billion), 2023	363	1,955	1,179	377	401	34,701	27,549
GDP growth, 1993-2023	2.3%	2.4%	4.4%	6.6%	4.8%	5.3%	5.4%
GDP per capita (constant 2015 US$), 2023	5,747	9,258	4,193	3,760	11,430	5,885	9,780
Industry value-added growth, 1993-2023	0.9%	1.4%	3.9%	7.4%	3.9%	5.6%	5.7%
Manufacturing value-added growth, 1993-2023	1.5%	0.7%	4.4%	8.6%	5.3%		
Manufacturing value-added (% of GDP), 2023	13.0%	13.3%	18.7%	23.9%	23.0%	20.7%	22.3%
Manufacturing exports (% of merchandise exports), 2022	37.3%	25.3%	42.7%	85.8%	66.7%	72.5%	75.3%
Growth of exports of goods and services, 1993-2023	2.6%	3.3%	5.0%	13.4%	5.0%		
High-tech exports (% of manuf. exports), 2022	5.5%	9.1%	8.3%	42.7%	58.3%	22.3%	22.7%
Average gross fixed capital formation (% of GDP),1993-2023	16.3%	18.2%	27.8%	30.1%	26.0%	28.7%	29.3%
Market capitalization of listed domestic companies (% GDP), 2022	288.0%	40.7%	46.3%	41.5%	93.5%	65.8%	65.7%

Notes: Growth rates are all calculated as compound annual growth rates from data in 2015 constant US$. The gaps in the table are indicators that the World Bank does not calculate for middle-income and upper-middle income groups. Due to missing data, the average gross fixed capital formation for Vietnam is calculated by averaging over the period 1995-2023.
Source: World Bank, World Development Indicators

China's engagement with GVCs

Late development – "in-out-in" model of linking up while linking back

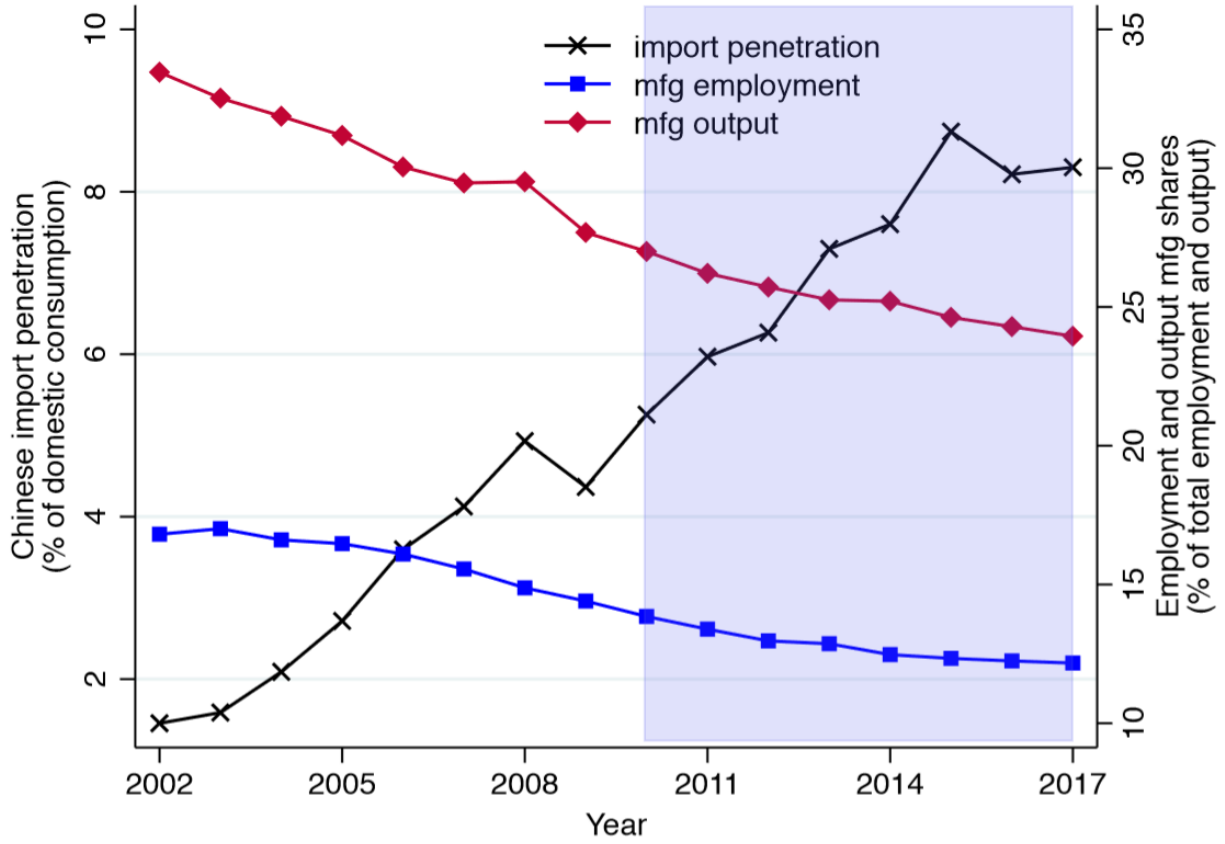


Phases	In L-UP	Out L UP-BACK	in-again L-UP
	1995-2003	2004-2008	2008-2011
Average growth rate FVA	0.196	0.274	0.157
Average growth rate DVA	0.157	**0.397**	0.143

Source: Andreoni, Lee & Torreggiani, 2021 based on OECD Tiva Data, 2016 version

Rising to the challenge or perish?

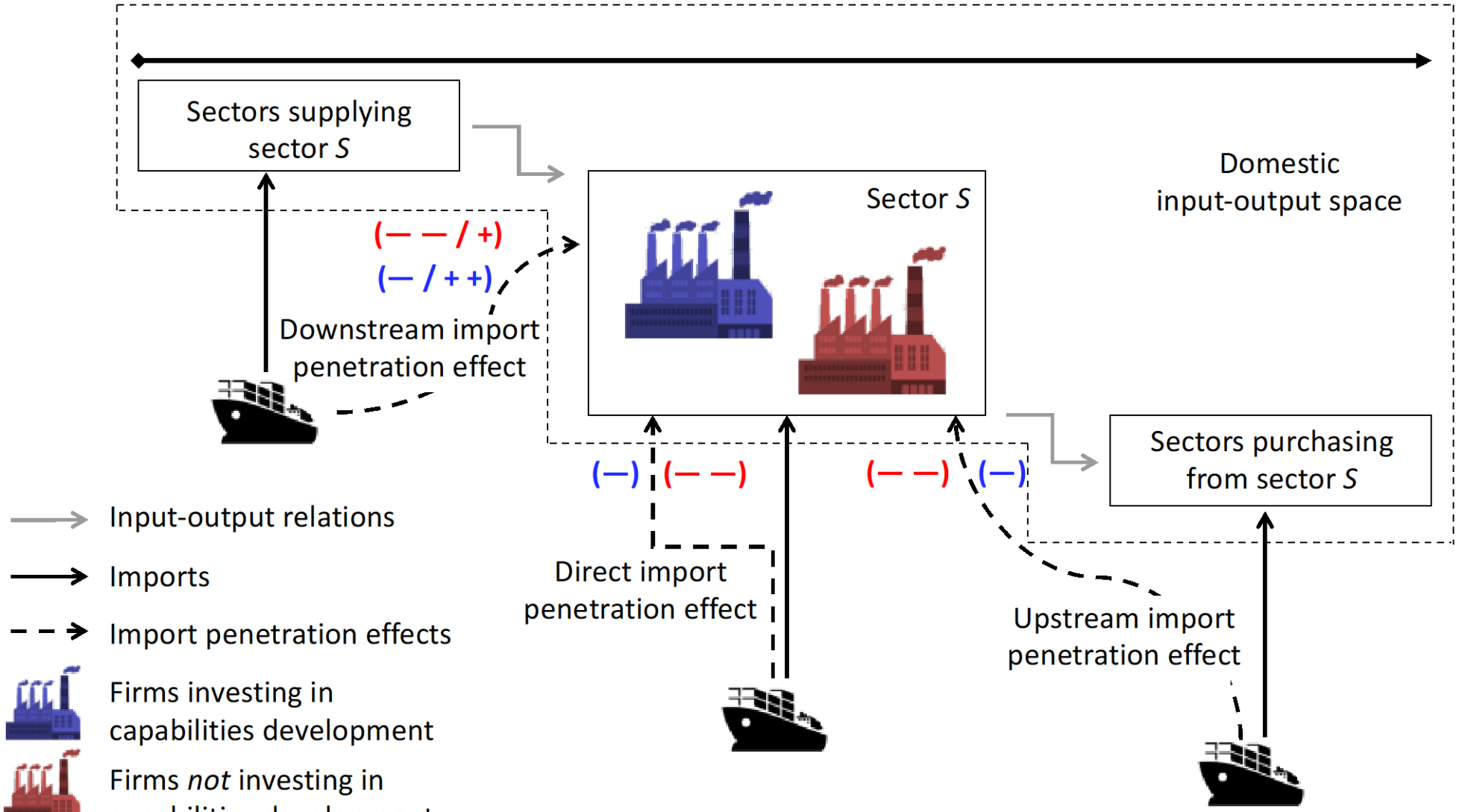
Figure 2: Chinese import penetration (*left scale*), and deindustrialisation dynamics (*right scale*) as in figure 1, sample period of interest highlighted (2010-2017).[2]



[2]Company Income Tax (CIT) data are only available for the 2008-2017 period.

Source: Torreggiani and Andreoni, 2023

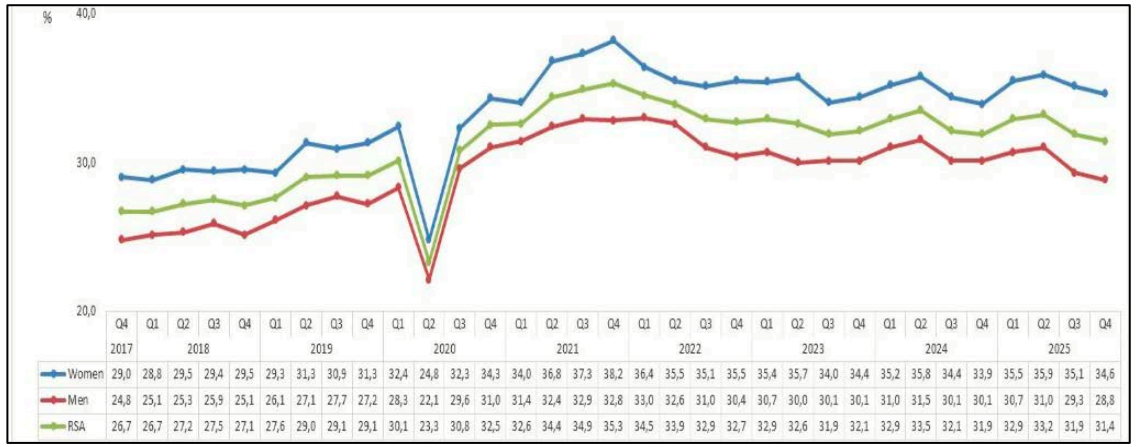
Chinese shock along GVCs: heterogenous impact across sectors and firms depending on their investments in skills and technologies



Source: Torreggiani and Andreoni, 2023

Economic structure that is socially, politically and ecologically unsustainable

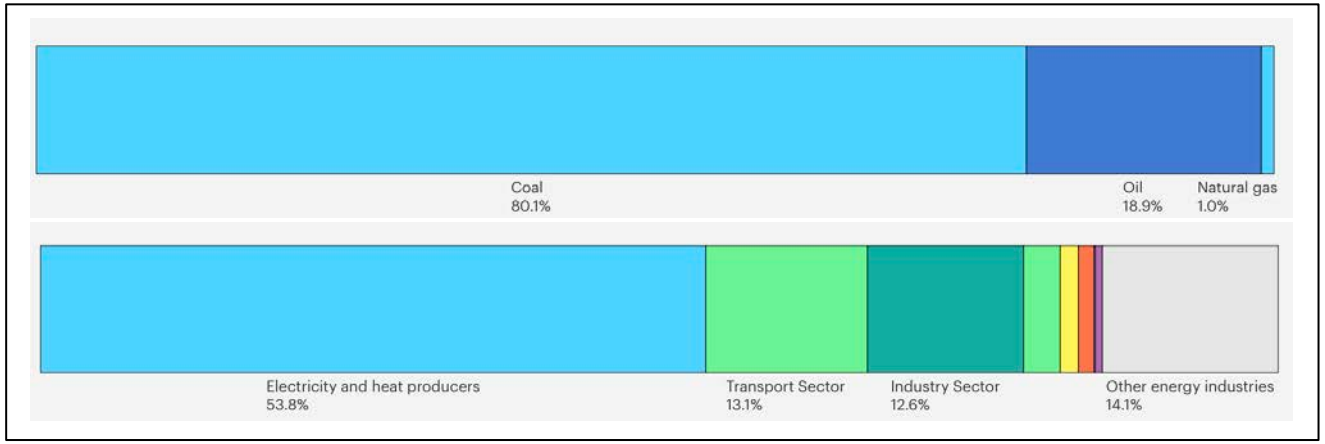
Unemployment Trend 2017-2025



	Q4 2017	Q1	Q2	Q3	Q4 2018	Q1	Q2	Q3	Q4 2019	Q1	Q2	Q3	Q4 2020	Q1	Q2	Q3	Q4 2021	Q1	Q2	Q3	Q4 2022	Q1	Q2	Q3	Q4 2023	Q1	Q2	Q3	Q4 2024	Q1	Q2	Q3	Q4 2025	Q1	Q2	Q3	Q4
Women	29,0	28,8	29,5	29,4	29,5	29,3	31,3	30,9	31,3	32,4	24,8	32,3	34,3	34,0	36,8	37,3	38,2	36,4	35,5	35,1	35,5	35,4	35,7	34,0	34,4	35,2	35,8	34,4	33,9	35,5	35,9	35,1	34,6				
Men	24,8	25,1	25,3	25,9	25,1	26,1	27,1	27,7	27,2	28,3	22,1	29,6	31,0	31,4	32,4	32,9	32,8	33,0	32,6	31,0	30,4	30,7	30,0	30,1	30,1	31,0	31,5	30,1	30,1	30,7	31,0	29,3	28,8				
RSA	26,7	26,7	27,2	27,5	27,1	27,6	29,0	29,1	29,1	30,1	23,3	30,8	32,5	32,6	34,4	34,9	35,3	34,5	33,9	32,9	32,7	32,9	32,6	31,9	32,1	32,9	33,5	32,1	31,9	32,9	33,2	31,9	31,4				

Source: Statistics South Africa 2026 (Q4 of 2025 Reporting)

CO2 emissions by fuel and by sector, 2023



Source: IEA 2026

Unemployment Rate: 31.4% in Q4 2025, among the highest globally (women face a higher unemployment rate of **43%** compared to men 35%).

Youth Unemployment (15–34 years) reached **43.8%** in Q4 2025.

Long-term Unemployment: Over the past decade, long-term unemployment (those looking for work for over a year) has risen to **76.6%** of the total unemployed

Coal dependence makes South Africa the most carbon-intensive economy among G20

Emissions are mainly coming from key upstream industries/companies

- **Eskom,** the state-owned utility with a large fleet of coal plants
- **SASOL,** the largest chemical company in Africa, listed in JSE/NYSE (26% Public) with global operations and Fischer-Tropsch Technology
- **ArcelorMittal South Africa (AMSA),** the second largest steel company in the world,

What is preventing transformative investments in SA?
Unveiling intersecting politics of decarbonisation

Intersecting politics: domestic and international

(Hymer, 1972; Evans 1979, 1995; Amsden 1989; Sally, 1994; Andreoni et al 2026a,b)

- **Political economy** – who holds power, but also what are the underpinning sources and structures of social, political and economic power
- **MNCs as as 'nodal point' of, and 'interface' between, international and country embedded industrial dynamics**

State-company rivalry but also state-state rivalry (Strange/Storper, 1988 and 1991)

- "State country-embeddedness of MNCs" and their "relative power" vis-à-vis the state allowing them to follow different investments strategies in different countries
- "State-strategic orientation" – short versus long term pressures – and its capacity to enforce industrial policy conditionalities and regulatory measures
- State rivalry and new forms of "kicking away the green ladder": the industrial decarbonisation of steel is a contested geopolitical and developmental field

Financialisation of non-financial corporations (NFCs) and subordinate finance

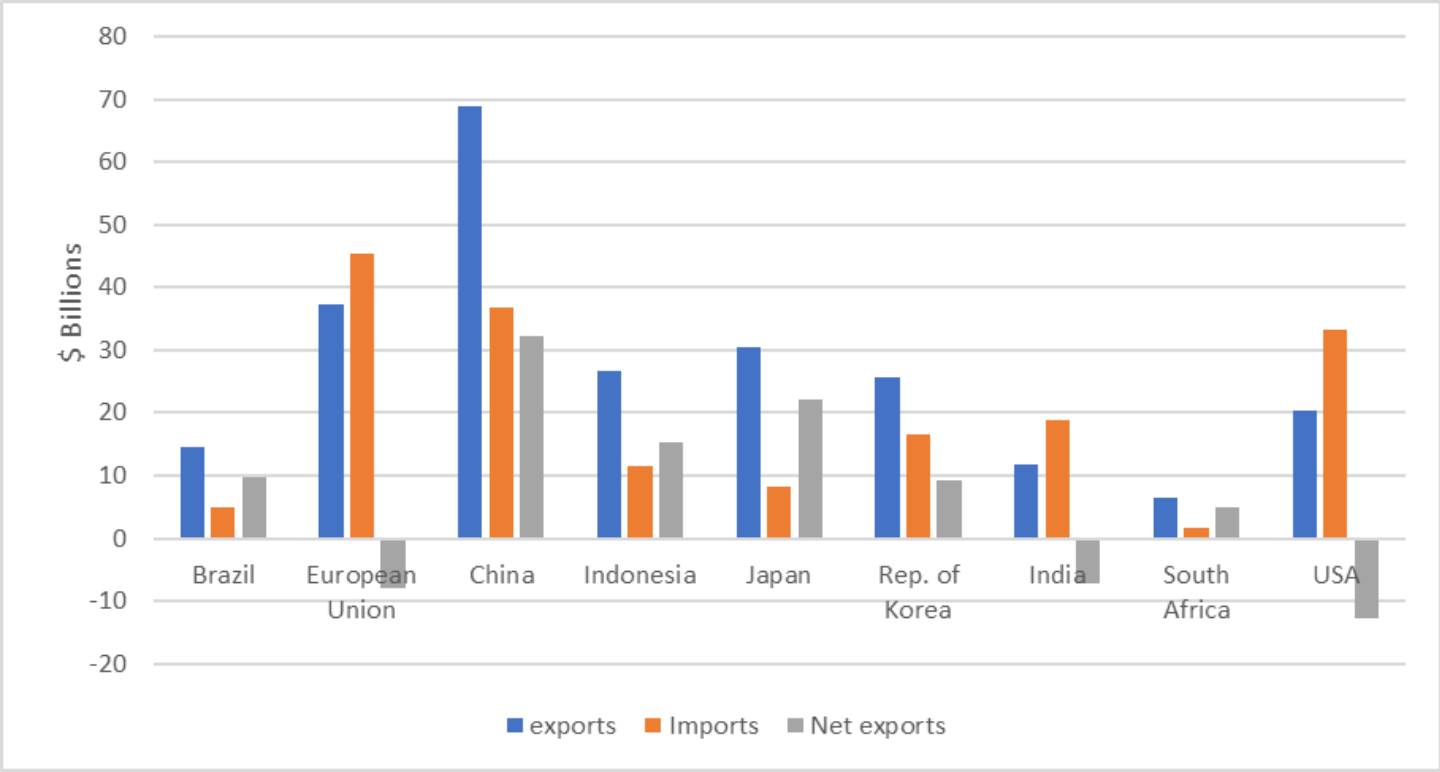
- Premature financialisation among NFCs in the global south, shaping their integration into GVCs and global financial system
- Different types of profits and rents are extracted
- Stock-markets operating as institutional mechanism for predatory value extraction

Intersecting politics of decarbonisation:
The case of the steel industry: the power of MNCs (AMSA)

Industry has been characterized by **"violent re-orderings" and decarbonization is the current driver**

- First, growth of Japan and South Korea
- Second, growth of China alongside increased concentration (top 10 producing countries account for a higher share of global production 75%)

Steel trade flows and net exports, 2023



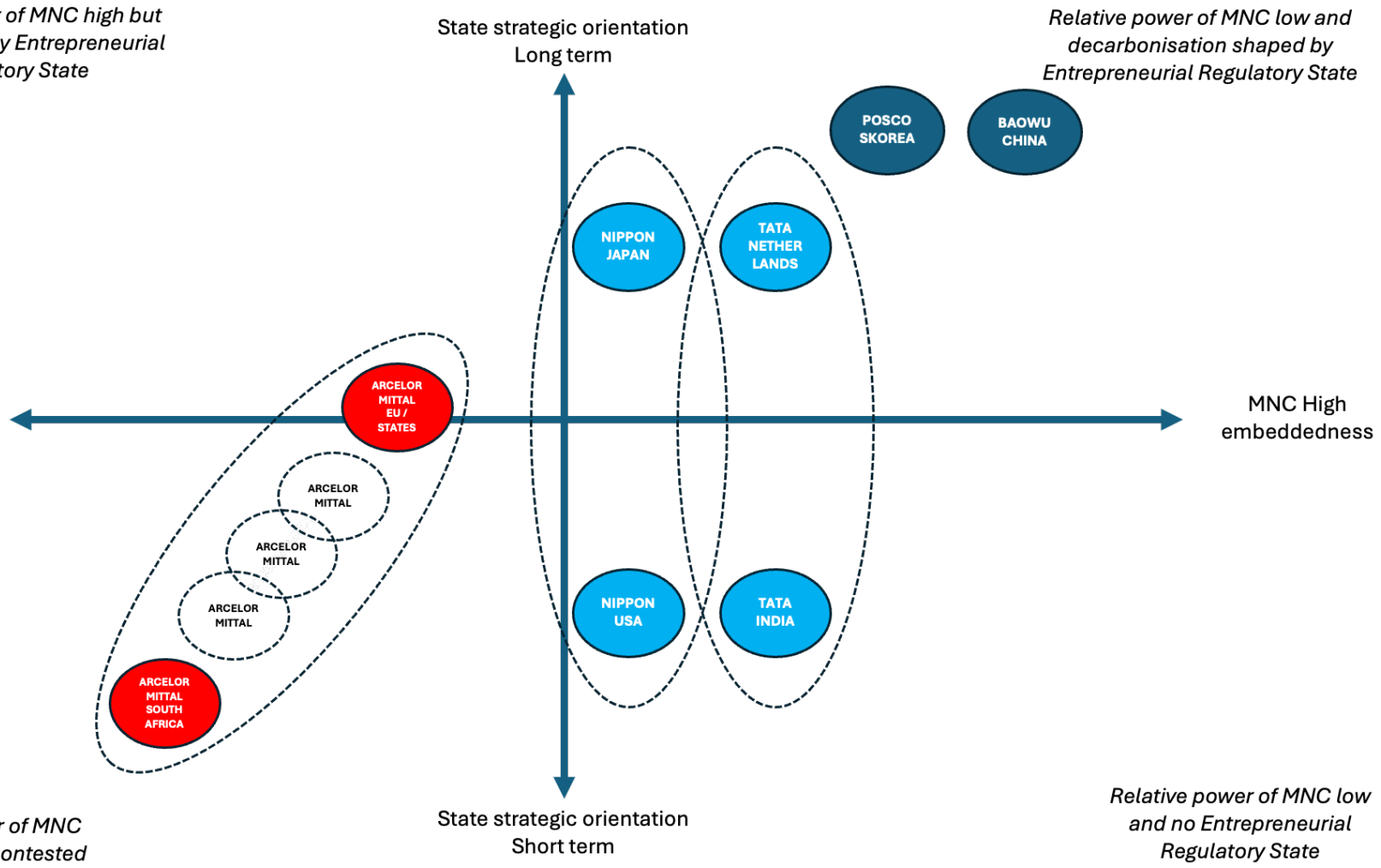
Steel industry: **monopoly power within some countries such as South Africa**, while at the global level there are many producers

2023					
Rank	Company	Head office	Share %	Ownership	Main locations
1	China Baowu Group	China	6.9	State	China
2	ArcelorMittal	Luxembourg	3.6	Mittal family	International
4	Nippon Steel	Japan	2.3	Institutions	Japan, Thailand, Sweden, Finland, USA India JV
7	POSCO	South Korea	2.0	Institutions	S Korea, Vietnam, Indonesia, Australia
10	Tata Steel	India	1.6	Tata family	India, Netherlands UK, Thailand
Other Chinese in top 10:					
3	Ansteel Group	China	3.0		
5	HBIS Group	China	2.2		
6	Shagang Group	China	2.1		
8	Jianlong Group	China	2.0		
9	Shougang Gp	China	1.8		
	Other		72.6		
	Total		100		

Source: World Steel Report 2023

Intersecting politics of decarbonisation:
The case of the steel industry: the power of MNCs (AMSA)

Throughout 1980s - 90s, thanks to market liberalisation, privatisation and the rise of 'entangled chains of global value and wealth' (Bair , Ponte et al., 2023), **MNCs have grown their relative power vis-a-vis the state (and labour)** while at the same time becoming **more 'dis-embedded' from their hosting economies (their interests and needs)**



Source: Andreoni et al. 2026

Intersecting politics of decarbonisation:
The case of the steel industry: the power of MNCs (AMSA)

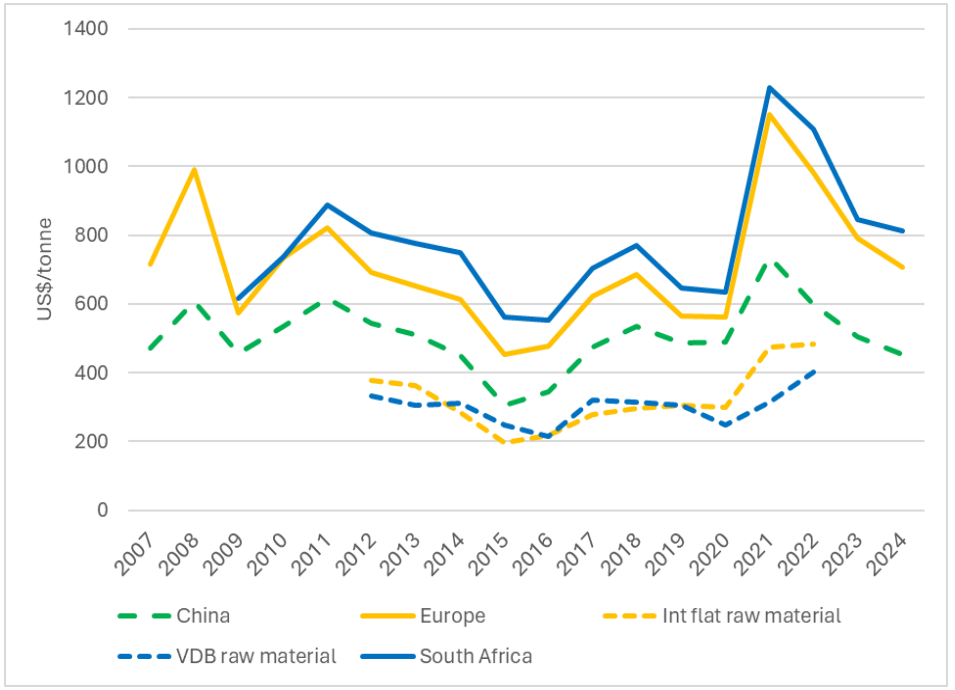
- **Steel has been at the heart of South Africa's industrialisation** (mining, automotive, …), centred on the formerly state-owned Iron & Steel Corporation, Iscor (privatised and acquired by ArcerlorMittal in 2006)

- South Africa possesses large reserves of quality iron ore, excellent solar and wind potential, and significant scope for green hydrogen (**green steel production would be 17-26% cheaper than Germany**)

- Despite government industrial policy and targeted support through to the early 2020s, **AMSA has been reticent to invest in the country** and projects have stalled (only short-term 'no regrets' efficiency improvements) – in fact **the threat of plant closure with major labour losses has been used to extract rents (social unrest & NUMSA)**

- **AMSA's leverage is not exercised primarily through lobbying but through its capacity to shape the structures within which the state's policy choices are made – monopoly pricing practices (domestically), socialising losses and retaining control over valuable assets, defining bankability and segmenting world markets** (leveraging state rivalry)

Figure 3. Flat steel (Hot Rolled Coil) prices and costs



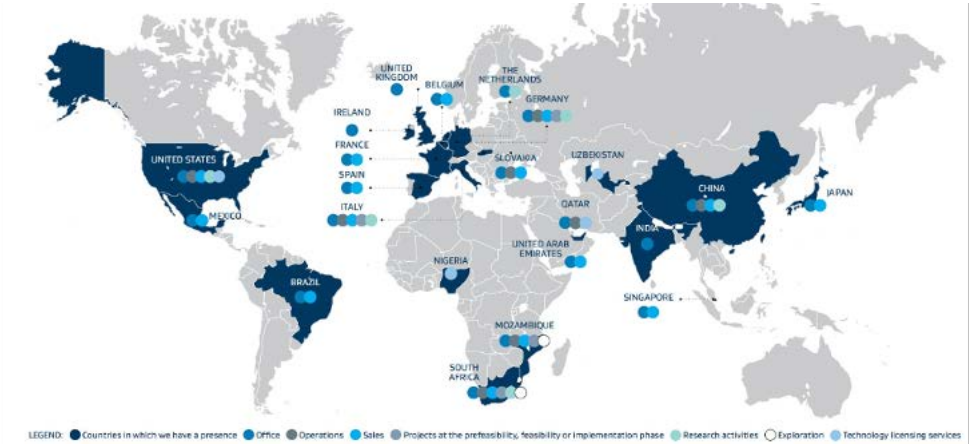
Source: Andreoni and Roberts 2026 based on South Africa, Europe and China prices are from MEPS; cash cost and raw material cost from AMSA Annual Reports. Europe is a consumption weighted average of UK, Germany, France, Spain and Italy, as calculated by MEPS.

Note: VDB is the main integrated mill at Vanderbijlpark

Pricing at import parity levels while exporting at a significant lower price

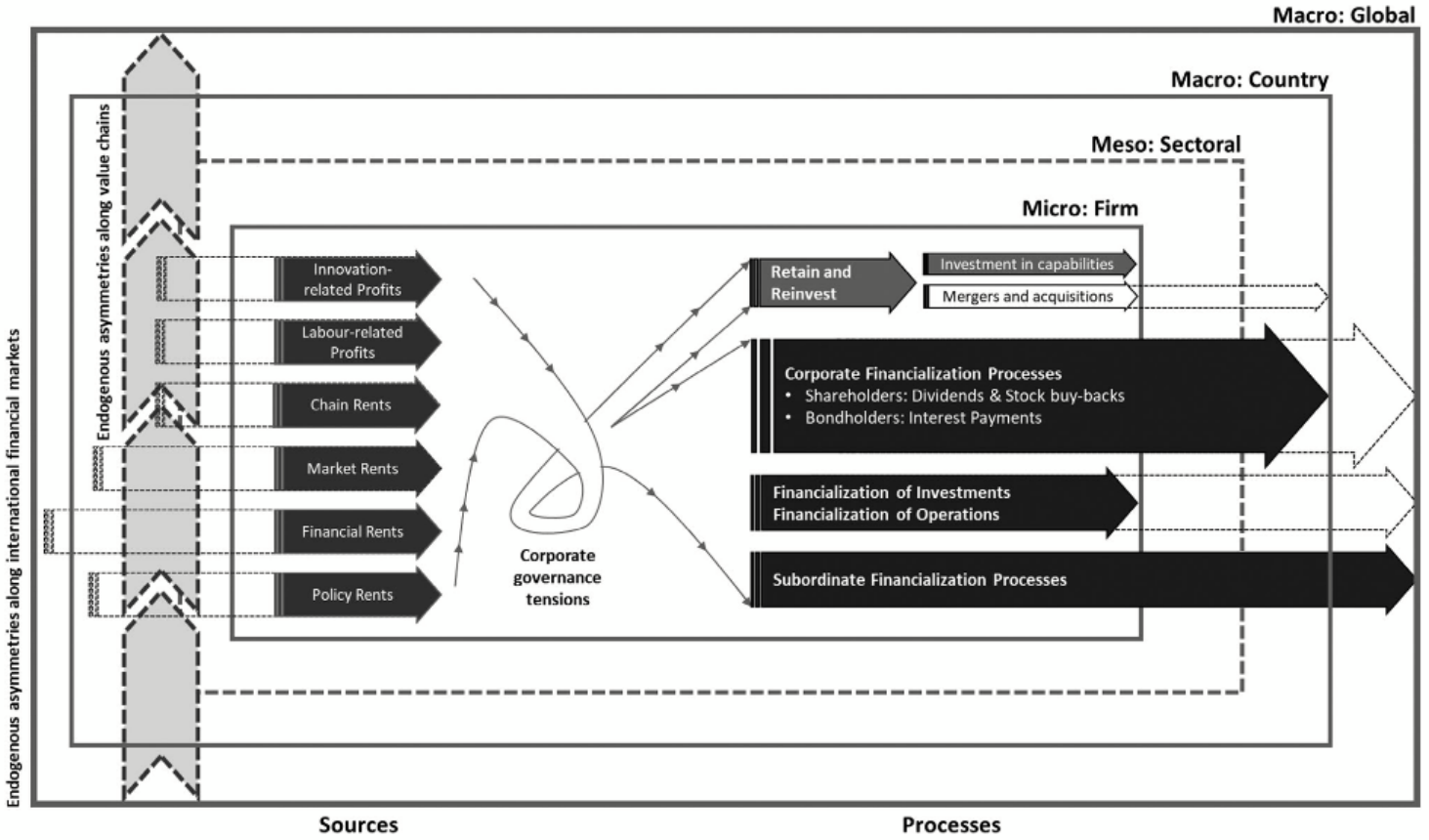
Intersecting politics of decarbonisation:
The case of the chemical industry: financialisation of SASOL

- SASOL was established in 1950 as a SOE and was privatized during the 1980s
- Global presence, over 22 countries
- Vertically integrated, ranging from mineral extraction through to retail (profitability is tied to volatile primary commodity prices)
- Listed in the JSE and NYSE in 2003 to access the US capital market (limited equity raised, issued bond), but divestments and layoffs (over 5,000) since 2011



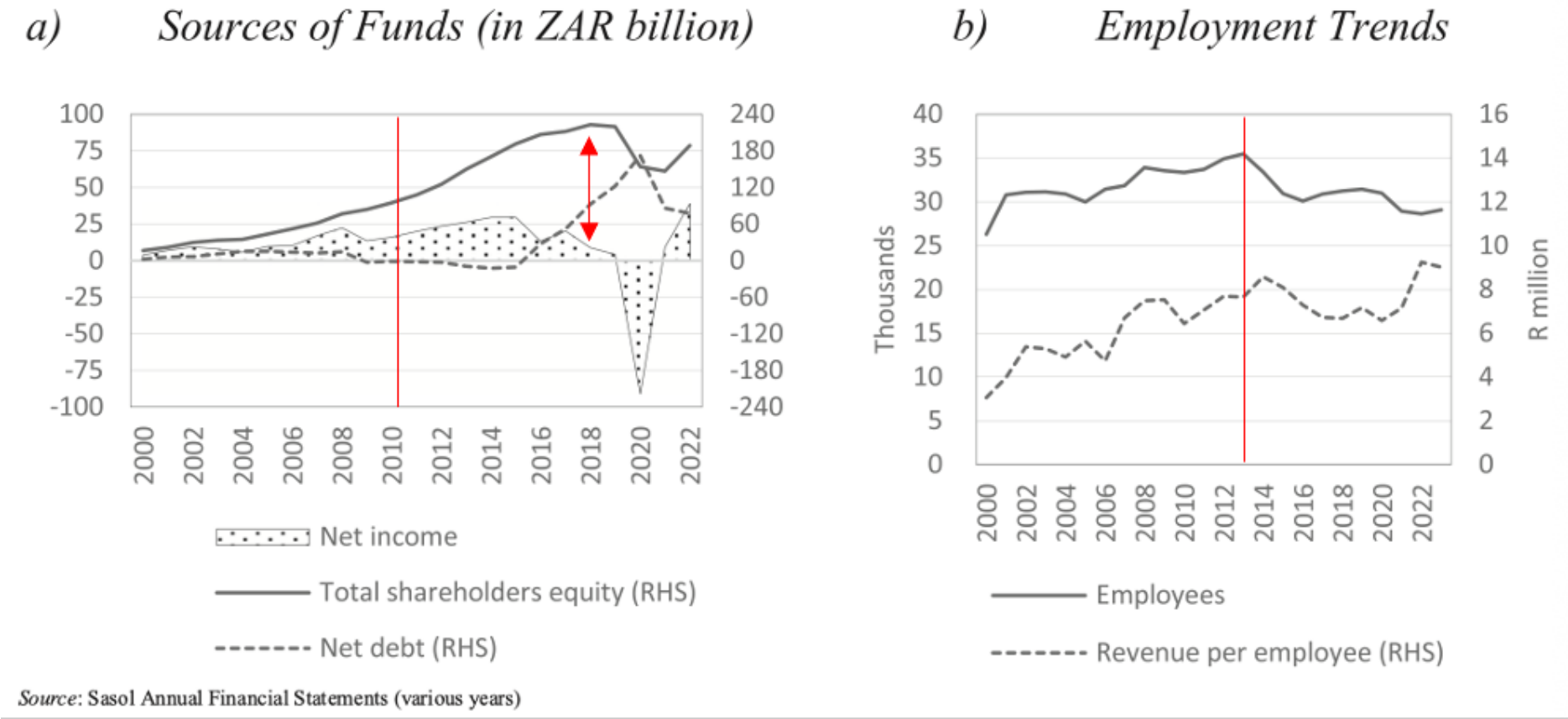
Source: Sasol Financial Reports

Sources and processes of financialisation



Source: Andreoni et al, 2026a

Intersecting politics of decarbonisation:
The case of the chemical industry: financialisation of SASOL



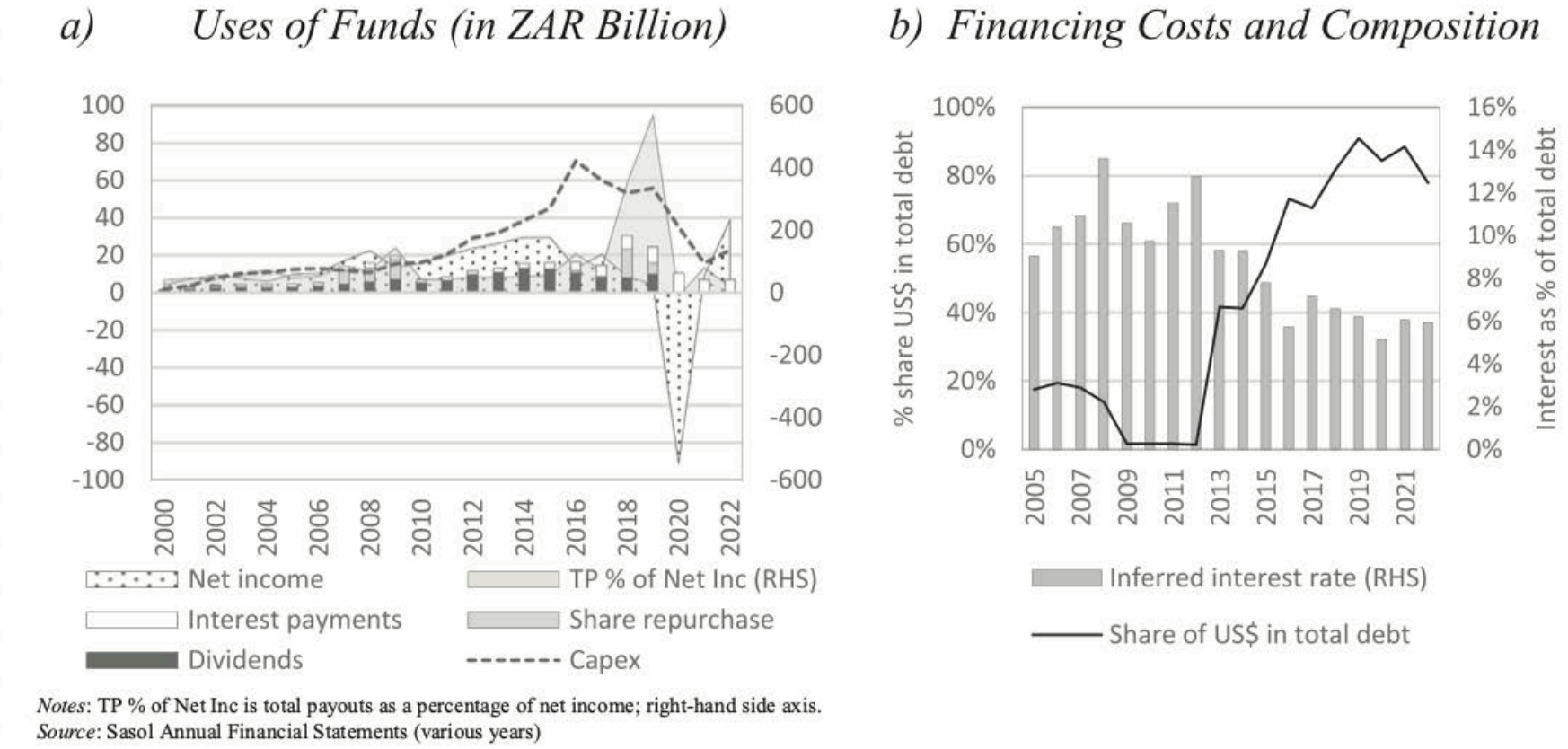
Source: Sasol Annual Financial Statements (various years)

Evidence of financialisation (and its impact):

- Sasol's shareholder **payouts are dominated by dividends** rather than share buybacks and have been **maintained almost independent of net income to satisfy international shareholders (at the cost of labour and domestic investments) – "downsize and distribute strategy"**

- High overall payouts are also increasingly linked to Sasol's focus on debt rather than equity as a source of funds: **distributions to financial markets, including interests, increased from a 2000–09 average of 72% of net income to a 2010–22 average of 120% of net income**.

Intersecting politics of decarbonisation:
The case of the chemical industry: financialisation of SASOL



Notes: TP % of Net Inc is total payouts as a percentage of net income; right-hand side axis.
Source: Sasol Annual Financial Statements (various years)

Evidence of subordinate financialisation:

- In 2015, Sasol's US **dollar-denominated debt surpassed rand-denominated debt**, and exposure to exchange rate risk has been intensified by delays in the construction of dollar-generating assets in U (further need to address foreign currency denominated credit risk)

- Sasol desire to expand into hard currency/low-interest rate market led to a **decoupling between where Sasol generates profits (South Africa) and where it invests these profits (US).** In 2025 48% profits from SA (16% from US), but 39% investments in the US (and only 36% in SA)

Main take aways

- **Production** and its transformation is not simply a technical problem, it **is political**
- **Industrial policy plays a central role in the history of capitalism (domestic and international political economy)**
- **Production and industrial policy sit uncomfortably within conventional neoclassical economics**
- **Industrial policy reasoning is anchored in classical political economy, structuralist and evolutionary economic theory, but also draw from other social sciences (political science, sociology – especially focusing on industrial relations, anthropology, etc.) and engineering**
- **Industrial policy is essential for industrial decarbonisation: leveraging opportunities for global south countries while managing conflicts and risks of non-developmental extractivism and new forms of kicking away the ladder**
- **Low and middle-income countries** – exactly those that need effective industrial policy for productive transformation and decarbonisation the most – are also those that are struggling in implementing and enforcing industrial policy the most

➢ **Without mechanisms to re-embed multinational firms and contain financialisation** - through credible conditionalities, alternative ownership options, coordinated infrastructure investment and international regulatory reform - **MIDCs will be relegated to subordinate positions in the green transition.**

References for the lecture

Theoretical contributions: history and theory of industrial policy

- Bringing production and employment back into development: Alice Amsden's legacy for a new developmentalist agenda (*Cambridge Journal of Regions, Economy and Society*, 2017)
- ❖ The Political Economy of Industrial Policy: Structural interdependencies, policy alignment and conflict management (*Structural Change and Economic Dynamics*, 2019)
- ❖ Industrial policy in the 21st century (*Development and Change*, 2020*)*
- *Rethinking Economic Transformation for Sustainable and Inclusive Development* (ILO and Edward Elgar Flagship Book, 2025)

Global south perspectives and South Africa context

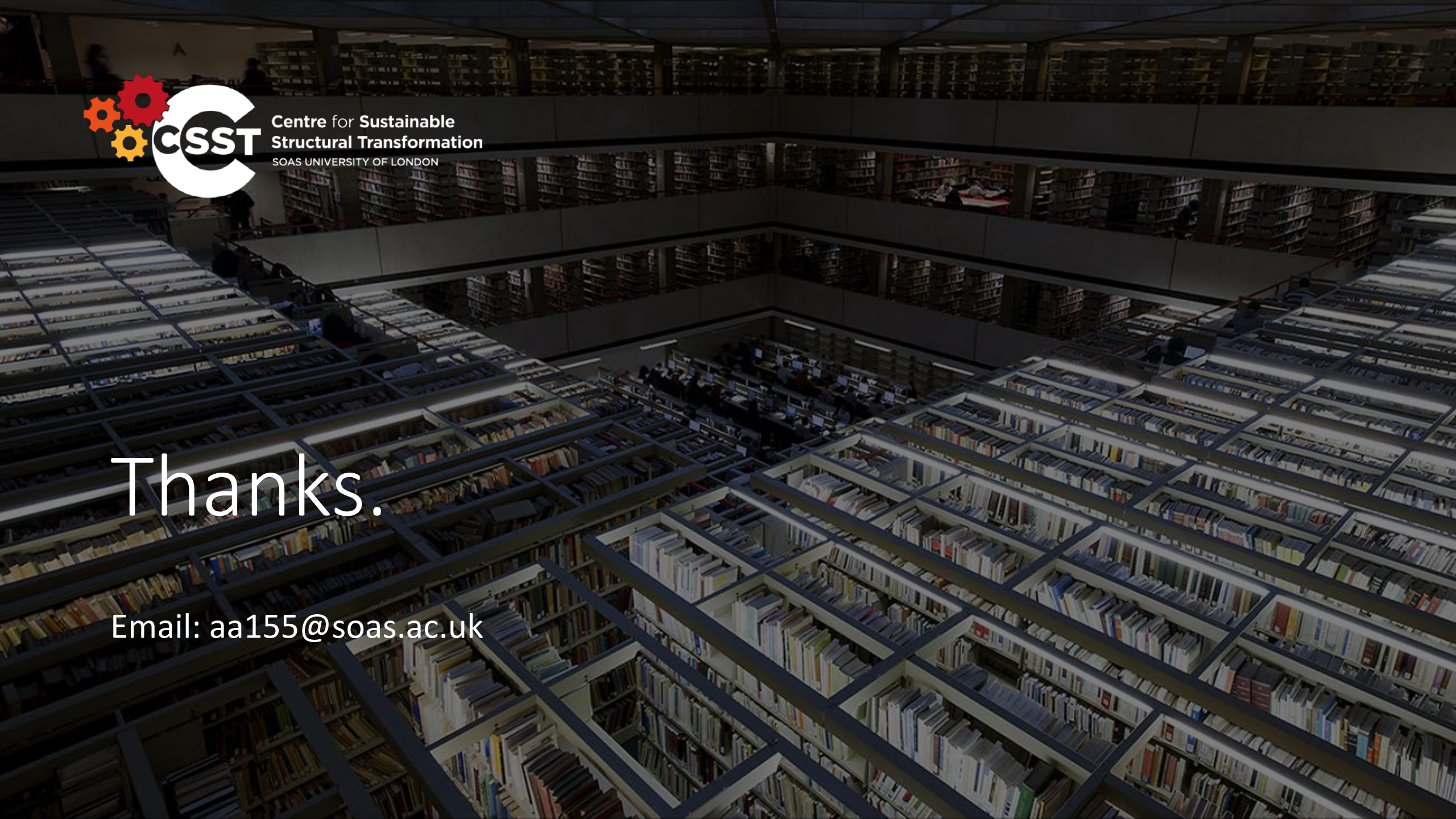
- ❖ *Structural Transformation in South Africa. The Challenges of Inclusive Industrial Development in a Middle-Income Country* (Oxford University Press, 2021)
- Minerals, Energy-Intensive Industries and Development, In: *The Future of Work in Developing Countries* (Columbia University Press, 2026)

Two mixed-methods industry/firm case studies on the intersecting politics of sustainability in South Africa:

- Financialisation of Non-Financial Corporations: A new framework with cases from South Africa (*Development and Change*, 2026a*)*
- Bringing Multinationals Back In: The International Political Economy of Industrial Decarbonisation and the case of South African Steel (Andreoni et al, *forthcoming*, 2026b)

Econometric analyses based on input-output, trade and firm-level tax data & DCE on the skills sector reforms in LDCs

- Rising to the Challenge or Perish? Chinese import penetration and its impact on growth dynamics of manufacturing firms in South Africa (*Structural Change and Economic Dynamics*, 2023)
- How to overcome rent seeking in Tanzania's skills sector? Exploring feasible reforms through discrete choice experiments (*World Development,* 2024)



Thanks.

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