Addressing Economic Distortions in the Indo-Pacific: The Role of Industrial Subsidies and State-owned Enterprises

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Why do we care?

• Level playing field and **distortions to competition** (beggar-thy-neighbour)

• Encourages **investment in capacity that not otherwise built**, or keeps uneconomic capacity alive (with effects on prices, jobs)

• Impacts on **important social and economic goals** (governance, environment)

• **Undermines faith in global markets and a fair global economy**

• **Support is a growth industry.....and is hard to reform**
Government support is hard to reform

Producer Support Estimates by country, percentage of gross farm receipts, 2000-02 and 2019-21

Percentage of gross farm receipts

Source: OECD Agriculture Monitoring and Evaluation Report 2020
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The landscape is changing for government support

Lots of reasons for a bigger role for the state

   – Design matters – how you go in affects how/if you come out
   – How you go out also matters – loan guarantees, tradable sectors

(ii) Resilient supply chains
   – Role of state increasing, especially on essential goods
   – Incentives to companies for diversification

(iii) National security/geopolitics
   - Tech, dual use and concentration concerns
   - Countries with different economic (and political) systems

(iv) Green and digital transformations
   - Public investments needed – however, need to target market failures

What’s a good subsidy?
UNDERSTANDING GOVERNMENT SUPPORT
Government support takes many forms

<table>
<thead>
<tr>
<th>Transfer Mechanism (how a transfer is created)</th>
<th>A: Output returns</th>
<th>B: Enterprise income</th>
<th>C: Cost of intermediate inputs</th>
<th>D: Labour</th>
<th>E: Land and natural resources</th>
<th>F: Capital</th>
<th>G: Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Direct transfer of funds</td>
<td>Output bounty or deficiency payment</td>
<td>Operating grant</td>
<td>Input-price subsidy</td>
<td>Wage subsidy</td>
<td>Capital grant linked to acquisition of land</td>
<td>Grant tied to the acquisition of assets</td>
<td>Government R&amp;D</td>
</tr>
<tr>
<td>2: Tax revenue foregone</td>
<td>Production tax credit</td>
<td>Reduced rate of income tax</td>
<td>Reduction in excise tax on input</td>
<td>Reduction in social charges (payroll taxes)</td>
<td>Property-tax reduction or exemption</td>
<td>Investment tax credit</td>
<td>Tax credit for private R&amp;D</td>
</tr>
<tr>
<td>3: Other government revenue foregone</td>
<td>Waiving of administrative fees or charges</td>
<td>Under-pricing of a government good or service</td>
<td>Under-pricing of access to government land or natural resources</td>
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<td>Under-pricing of access to government land or natural resources</td>
<td>Government transfer of intellectual property rights</td>
</tr>
<tr>
<td>4: Transfer of risk to government</td>
<td>Government buffer stock</td>
<td>Third-party liability limit for producers</td>
<td>Assumption of occupational health and accident liabilities</td>
<td>Credit guarantee linked to acquisition of land</td>
<td>Loan guarantee; non-market debt-equity swaps and equity injections</td>
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</tr>
<tr>
<td>5: Induced transfers</td>
<td>Import tariff or export subsidy; LCRs</td>
<td>Monopoly concession</td>
<td>Monopsony concession; export restriction</td>
<td>Wage control</td>
<td>Land-use control</td>
<td>Credit control (sector-specific); non-market M&amp;As</td>
<td>Deviations from standard IPR rules</td>
</tr>
</tbody>
</table>
Understanding support in industrial sectors is challenging

• **Work to date**
  – Commodity (aluminium)
  – High-tech sector (semiconductors)
  – Below market finance (horizontal)
  – Ongoing work on rolling stock, energy inputs, SOEs

• **To assess government support in industrial sectors, we looked at individual firms:**
  – Necessary given lack of policy transparency
  – Enables greater granularity (e.g., of subnational measures)
  – Enables identification of support beyond traditional forms (e.g., below market finance)
What did we learn? Aluminium

- **Support upstream** can have sizable **effects downstream**.
  - Need to take a **value chain approach**

- Support mostly takes the form of **energy subsidies** and **below-market financing**.
  - Below-market financing is hard to measure but even conservative estimates suggest it is significant. (USD 7-56 billion)
  - Aluminium multinationals obtain support in the different countries in which they operate, but large SOEs get most support from their home countries.

- There is **strong involvement of the state** in the aluminium value chain, and SOEs are both recipients and providers of support:
  - SOEs account for almost half of all smelting capacity
  - Cheap finance (debt) is often delivered through state-owned financial institutions
  - Issues for transparency

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![Bar chart showing support for energy and other intermediates, financial subsidies (Tier 2), financial subsidies (Tier 3), and other non-financial support for various aluminium companies.](chart.png)
What did we learn? Semiconductors

• R&D subsidies are significant
  – But do they work in high-tech sectors?

• Below market finance significant: loans (debt), but also equity
  – Hard to measure equity
  – Not just one off benefit

• How to treat government ownership in firms?
  – SOEs vs government invested firms
Tax concessions are relatively larger in tech-oriented sectors and solar panels.

Note: Data are expressed relative to the sales revenue of the firms covered in the study over the period 2005-19. Source: OECD
What did we learn? Below market finance

Support measures:

- Below-market finance
  - Grants
  - Tax concessions
  - Below-market inputs
  - Below-market energy
  - ...
Below-market finance is a large source of support in aluminium (left) and semiconductors (right)

Government support by year and type of support, USD millions, current

- Below-market borrowings
- Other budgetary support
- Support for energy inputs
- Below-market equity
- Budgetary support

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Below-market borrowings appear especially marked in industries with excess capacity.

Below-market borrowings in % of revenue, sectoral average of benefitting firms only.

- Aerospace and Defence
- Aluminium
- Cement
- Chemicals
- Cement
- Semiconductors
- Glass and Ceramics
- Wind turbines
- Solar photovoltaic panels
- Shipbuilding
- Steel
- Rolling stock
- Telco network equipment
- Automobile

% of sampled firms with below-market borrowings
Support estimates differ in precision and complexity

Grants

Tax concessions

Below-market borrowing

Below-market equity

More precise, less complex

Less precise, more complex
Understanding impacts is a further challenge

• **Support builds along value chains**
  – Attribution of benefit (downstream and upstream)

• **Interacts with other government policies**
  – E.g., export restrictions lower input costs

• **Interactions among different forms of government support**
  – Cheap inputs enhances profitability, masks below market equity or loans

• **Technically challenging**
  – Market benchmarks
  – Causality vs correlation
THE ROLE OF THE STATE: SOE AND SE
Government-invested firms tend to benefit more from support

Governments own a large share of assets in certain sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total book value of assets in 2018 (USDmn)</th>
<th>Percentage of assets held by governments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace and Defence -- AERO</td>
<td>860,335</td>
<td>28.9%</td>
</tr>
<tr>
<td>Aluminium -- ALUM</td>
<td>446,126</td>
<td>55.5%</td>
</tr>
<tr>
<td>Automobile -- AUTO</td>
<td>3,234,765</td>
<td>13.4%</td>
</tr>
<tr>
<td>Cement -- CEMT</td>
<td>393,035</td>
<td>15.2%</td>
</tr>
<tr>
<td>Chemicals -- CHEM</td>
<td>1,354,185</td>
<td>19.9%</td>
</tr>
<tr>
<td>Glass and Ceramics -- GLAS</td>
<td>140,675</td>
<td>0.4%</td>
</tr>
<tr>
<td>Rolling stock -- TRAN</td>
<td>140,527</td>
<td>20.4%</td>
</tr>
<tr>
<td>Semiconductors -- SEMI</td>
<td>961,208</td>
<td>7.0%</td>
</tr>
<tr>
<td>Shipbuilding -- SHIP</td>
<td>208,166</td>
<td>67.4%</td>
</tr>
<tr>
<td>Solar photovoltaic panels -- SOLA</td>
<td>44,225</td>
<td>5.5%</td>
</tr>
<tr>
<td>Steel -- STEE</td>
<td>823,348</td>
<td>44.0%</td>
</tr>
<tr>
<td>Telecommunications network equipment -- TELC</td>
<td>374,598</td>
<td>4.1%</td>
</tr>
<tr>
<td>Wind turbines -- WIND</td>
<td>82,376</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Source: OECD below market finance. Sample comprises more than 300 large manufacturing firms. Table shows only the assets of the firms covered by the sample.
State ownership per se is not necessarily a problem

• **Transparency** is key, but also **oversight**
  – Parliamentary oversight
  – Public accountability, checks & balances

• And adherence to **good governance practices**
  – Regulatory requirement for competitive neutrality
  – Disclosure and auditing rules
  – Clear separation when involved in commercial activities
    • State support is different from public service obligations
But state ownership can be the channels for support

• Government invested firms are both important recipients and providers of support

• In both cases, starts below the “majority ownership” concept of an SOE

• Different definitions of SOEs at national level
  – Often 50% or majority ownership, but also other factors
  – Size, but also golden shares, Board appointees
  – But also more difficult aspects to capture like influence

• We use the concept of “state enterprise”
An important challenge is knowing where the state is

Stylised ownership structure of new semiconductor fabs in China, % of shares

- **State-owned Assets Supervision and Administration Commission (SASAC)**: 100%
  - **State-owned SOE**: 30%
  - **Parent company**: 51%
  - **Holding subsidiary**: 100%
    - **Semiconductor fab**: 100%
    - **Local government fund**: 19%
    - **National IC Fund**: 30%

Note: Fabs’ is the common denomination for semiconductor manufacturing facilities or fabrication plants. Source: OECD (2019).
An important challenge is knowing where the state is...
Why do we need to know where the state is?

• **Lack of transparency masks government support** by giving appearance of regular commercial transactions.

• State investment is the plumbing through which a range of support can flow:
  - Grants, loans, equity
  - But also less direct benefits (information, competitors self-censor).

• Other reasons, e.g.,
  - National security - FDI screening, M&A
  - Market distortions (e.g., under-pricing in internationally competitive tenders, M&A bids)
  - Economic coercion (unwritten instructions)
  - Forced tech transfer.
WHAT CAN WE DO ABOUT GOVERNMENT SUPPORT?
Government support is best addressed multilaterally

- Reform of government support requires 4 interconnected things

- **Transparency** (what’s going on)

- **Predictability** (lock in, baseline)

- **Reduction** (starting with the most egregious)

- **Prevention** (tomorrow’s subsidisers in tomorrow’s sectors)
WTO: fix the gaps in the rules…and make them usable

- Not necessarily a ‘public body’ under WTO rules
- Ownership stake (e.g. 40%)
- Not covered by most FTAs
- Direct support

Government

State-owned enterprise (e.g. state bank)

Indirect support (e.g. below-market loan)

Industrial producer (state-owned or private)

Disciplined by the WTO SCM
Transparency is the key first step

- **WTO notifications** – how to improve?
  - Link to wider transparency discussions
  - Role for WTO Secretariat? Other IOs?

- **Mind the gaps**
  - Government ownership of companies: need more information on where the state is
  - Below market finance – agreement, benchmarks

- **Leverage non-government sources of information**
  - Accounting standards
  - Company disclosure for listing or procurement bids
All multilateralism is local

• Need to make the domestic case for global policy reform

• Government support can be self-defeating
  – International competition
  – Subnational competition
  – Impacts on productivity
    • Negative correlation to cheap loans

• Is support achieving its claimed objectives – and at what cost?
  – Who pays, who benefits?

• Opportunity costs for scarce public resources
  – Investments in the public interest (education, infrastructure – including digital, health systems)
Thank you – and contact us

We look forward to hearing from you!

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Estimating below-market borrowings

- Actual interest rate

Tier 1
Corporate spread (US)

Risk-free base rate

Benchmark interest rate

Tier 2
Corporate spread (local)

Tier 3
Additional spread absent govt guarantee
Estimating below-market equity returns

Market benchmark return = \textbf{required rate of return} \times \textbf{assets}

\begin{align*}
\text{Market benchmark return} &= \text{required rate of return} \times \text{assets} \\
\text{Below-market equity} &\rightarrow \text{Below-market borrowings} \\
&\rightarrow \text{Interest expenses} \\
&\rightarrow \text{Budgetary support} \\
&\quad \text{(e.g. govt grants and tax breaks)} \\
&\rightarrow \text{Profit after tax}
\end{align*}