



Economic Impact of Strategic Trade Controls

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Strategic Trade Controls: Rationale

Operative Definition → *A semi-permeable membrane to verify & permit transfer of prescribed products, components, technologies & services (know-how & know-why) across national boundaries; emphasis on regulation than outright denials*

Most heavily traded commodities are also of greatest concern for WMDs

- *IT, ITeS, nuclear, chem., bio-tech, aerospace, specialty materials, composites*
- *Precision engineering, machine tools, lasers, nano-tech*

STCs regulate “hi-tech” products, components & services , which have

- Higher marginal product of labor → greater profits
- Low elasticity of price & demand → sustained market share
- Key to strong industrial base → national power (civilian & military)

When designed & operated judiciously, STCs are one of the most viable trade-enabling & security-maximizing tools

Economic Context of Hi-Tech Trade (in Asia)

45% of global investible capital is in Asia

Over 60% of this now STAYS in Asia

Asia-wide foreign trade

→ ~ 40% of GDP

For ASEAN

→ ~ 60% of GDP

For PRC

→ ~ 55% of GDP

For India & ROK

→ ~ 40% of GDP & growing

Value Added Mfg & Services

→ ~ 40% of foreign trade across Asia

Developed Countries want “win-win” by locating BPO, KPO & manufacturing in Asia

Hence, seek higher tech safeguards from trading partners in Asia

UNSCR 1540: Operative Requirement

- **Res 1540 requires states, in part, to**
*“establish, develop, review and maintain appropriate effective national **export and trans-shipment controls**” over materials related to nuclear, chemical & biological weapons and their means of delivery.*
- **However, the Resolution affirms in the preamble that**
 - *“prevention of proliferation of nuclear, chemical and biological weapons **should not hamper** international cooperation in materials, equipment and technology for peaceful purposes.”*

Relationship b/w Economics & STCs

- **Does adopting STCs have an impact on the economic development of a country? If so, is it**
 - Positive
 - Negative
 - Insignificant

- **Hence, need to analyze how STCs impact a national economy**
 - One such attempt → UGA Study

UGA Study (2010): Economic Impact of Adopting STCs

- Unlike earlier efforts, this study examined trade controls from **both** importing & exporting perspectives
- Particular sensitivity to **imports as a measure of technology transfer**
- Tech transfer → indispensable metric to understand reluctance to adopt STCs:
 - ***concerns re tech transfer/denial issues***
 - ***concerns re curbs on nat'l eco development***

Assessing the Economic Impact of Adopting Strategic Trade Controls



U.S. Department of State
Bureau of International Security and Nonproliferation
Office of Export Cooperation

By Scott Jones and Johannes Karreth

December 2010

Prepared by The University of Georgia
Center for International Trade and Security
as a team member of
Science Applications International Corporation
under Department of State Task Order S-AQMMA-08-F-6920

<http://www.state.gov/documents/organization/156673.pdf>

The study was conducted through the generous support of the US Dept of State, Export Control and related Border Security Program (FY06)

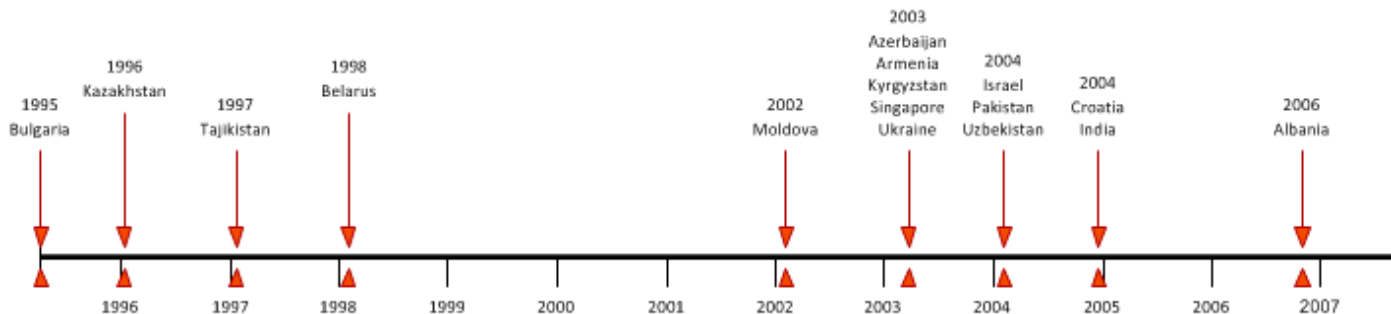
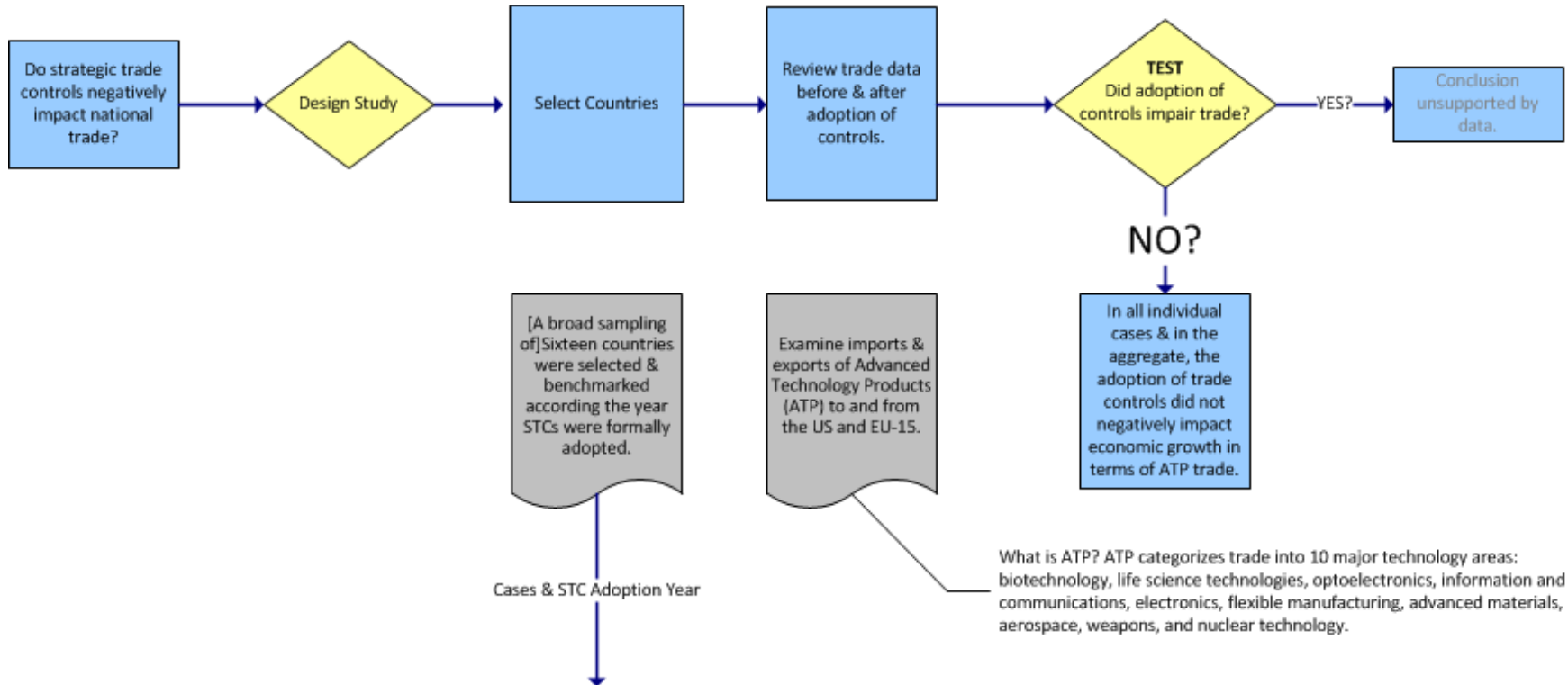
UGA Study (cont.)

- Two hypotheses tested using data on trade in ATP (Advanced Technology Products) to & from US, EU-15
 - *Why use ATP? Because there is no uniformly accepted common measure for HS and ECCN designated items*

Hypothesis 1: When countries introduce comprehensive STCs, they regularly experience **a decline** in exports & imports of hi-tech products, *holding all else constant*

Hypothesis 2: When countries introduce comprehensive STCs, they do not experience **any significant change** in exports & imports of hi-tech products, *holding all else constant*

Our Setup



The Data: Trade in ATP

- **Why Trade?** Essential component of development
- **Why ATP?** *Because no uniformly accepted common measure for HS and ECCN designated items*
- **What is ATP?** 219 HS-6 Commodity Codes covering high-tech goods → most affected by the licensing process & bureaucracy. **If STCs have an impact, it would be reflected here**
- We try to minimize the trade-off b/w
 - *an exact measure for controlled goods, and*
 - *assumption of a link b/w trade in specific goods and economic structure/performance.*

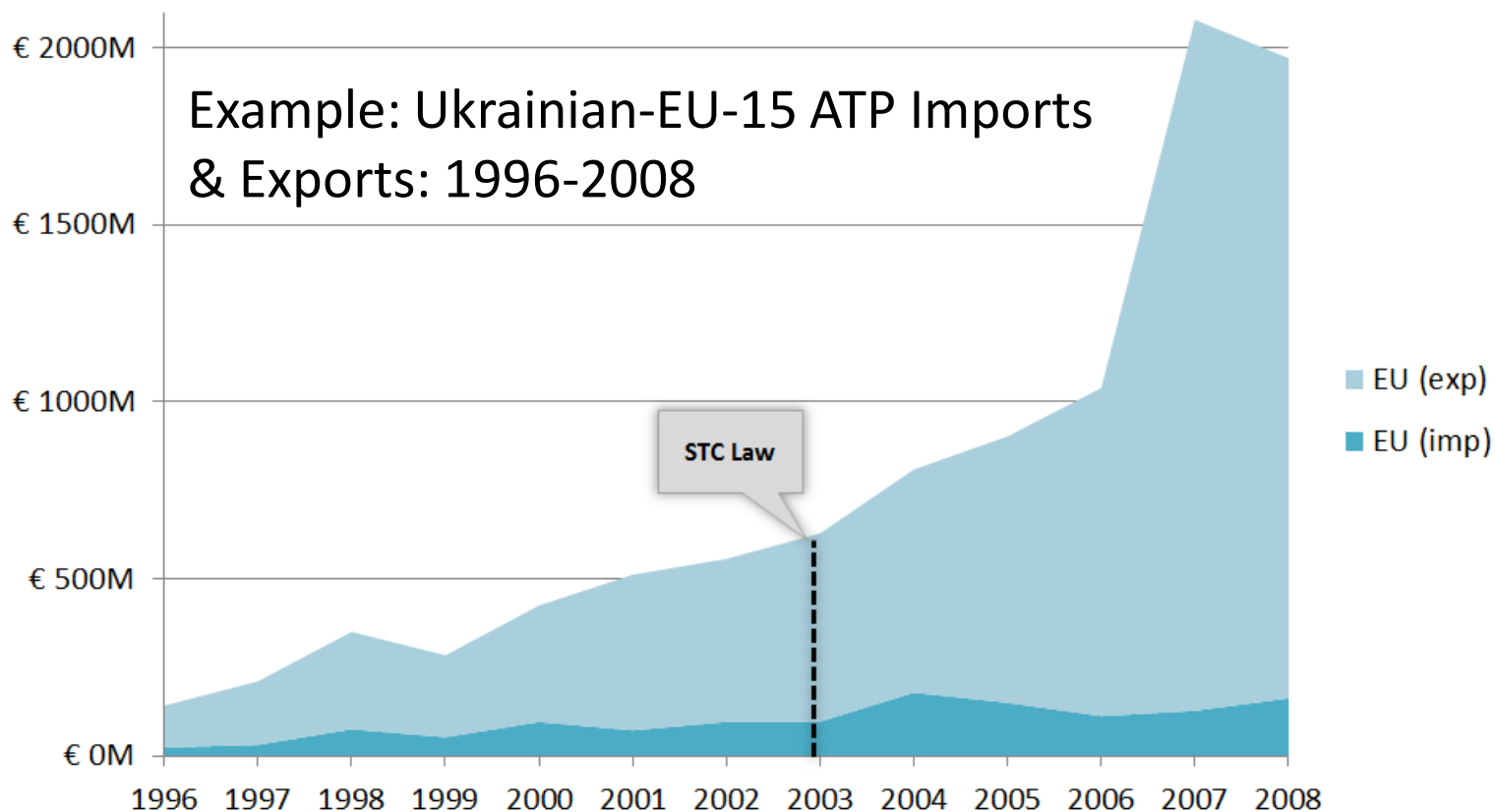
Advanced Technology Products (ATP)

US Census Bureau & UN Comtrade

Technology Field	Example of Products
Biotechnology	Vaccines for human medicine, vaccines for veterinary medicine
Life Sciences	Magnetic resonance imaging apparatus, electrocardiographs, artificial joints
Opto-Electronics	Rangefinders, stereoscopic microscopes, lasers other than laser diodes
Information & Communications	Personal computers, facsimile machines, communications satellites, camcorders
Electronics	Particle accelerators, semiconductors, smart cards
Flexible Manufacturing	Industrial robots, thermostats, semiconductor manufacturing equipment
Advanced Materials	Optical fiber cables
Aerospace	Turbojet aircraft engines, new multi-engine airplanes
Weapons	Guided missiles, self-propelled artillery weapons
Nuclear Technology	Nuclear reactors, uranium compounds enriched in U235

Results: Ukraine (STCs → boosted Xs, Ms)

- Time-series data demonstrates → trade flows in ATP items was **not** negatively impacted (and indeed boosted) by the enactment of STC legislation

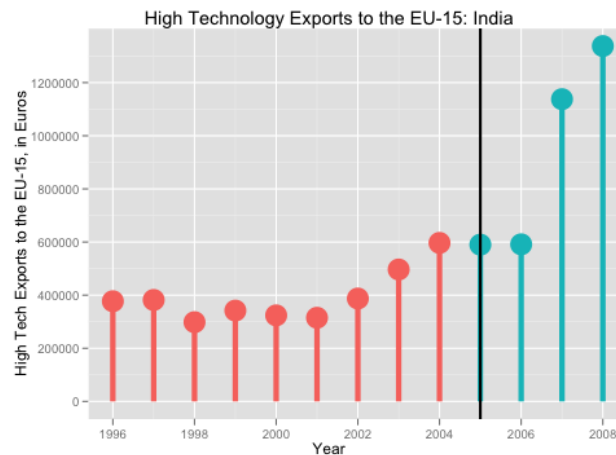


Results: India (STCs → boosted trade)

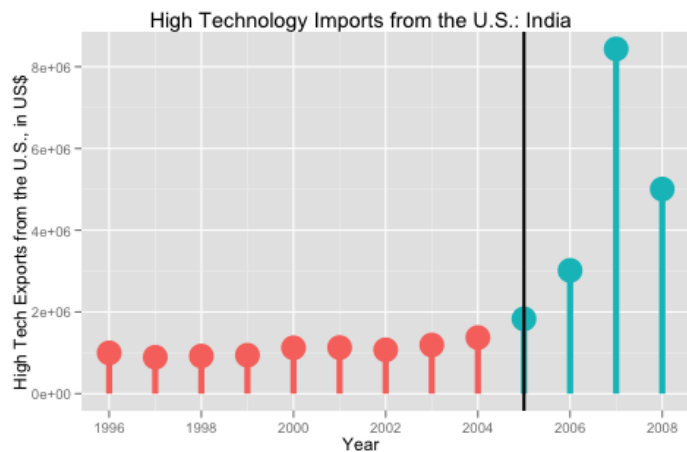
Exports → US



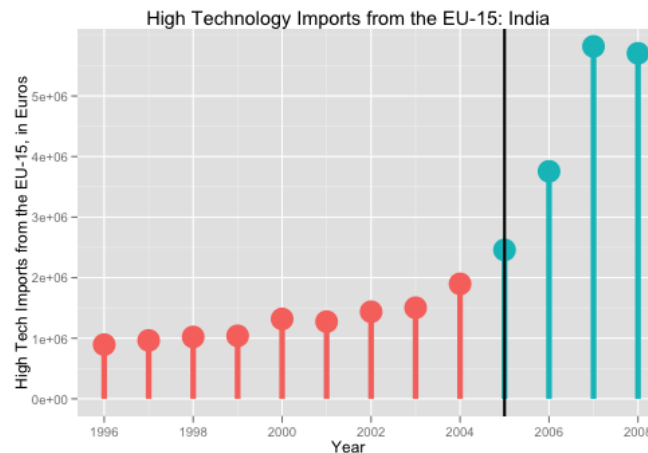
Exports → Europe



Reverse: Imports ← US

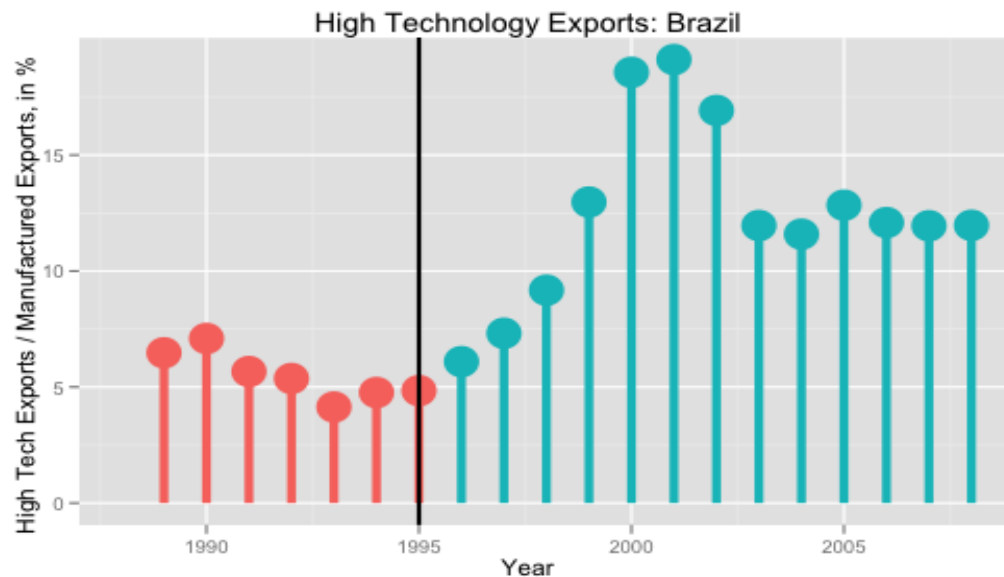


... and Imports ← Europe

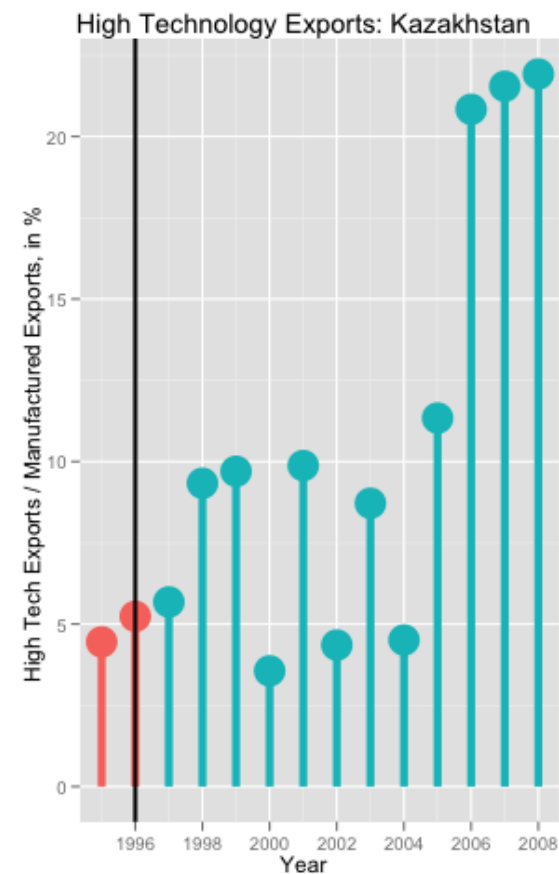


Results: High-Tech as % of all Exports in 3 countries

Brazil



Kazakhstan



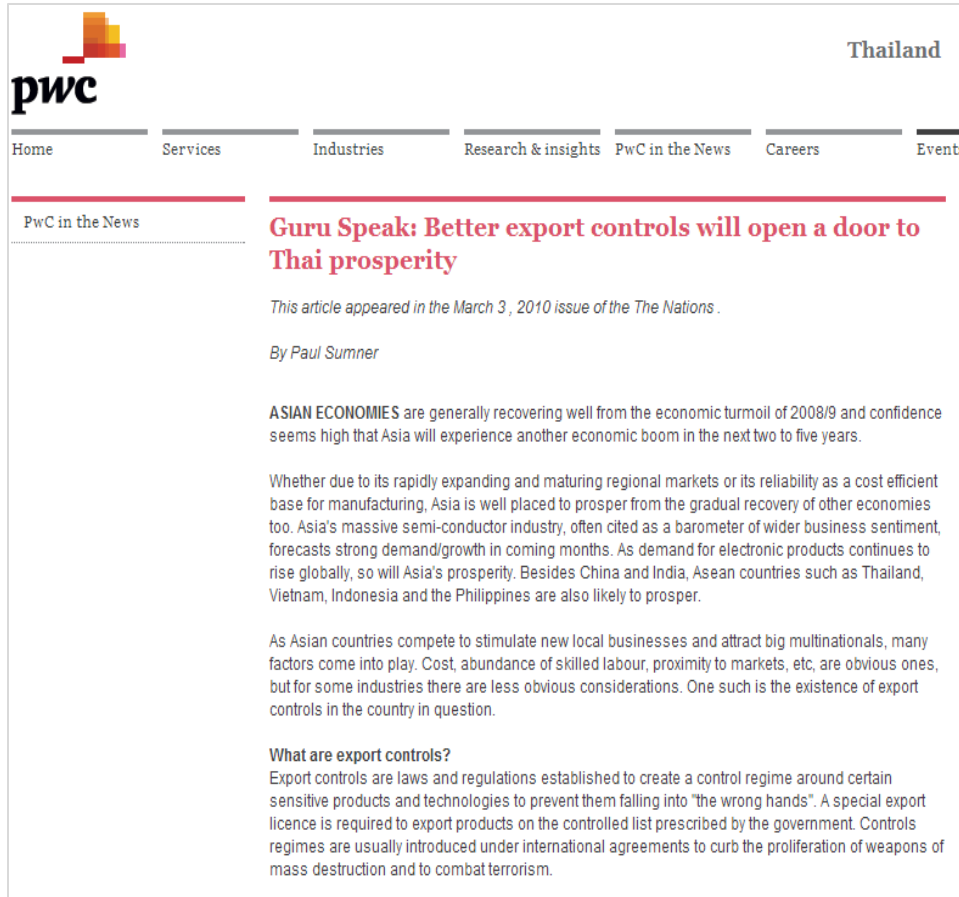
India



The Study: Findings

- **STC legislation marginally increased imports (from EU/US)**
- **STCs provide assurances to:**
 - **Exporting government (e.g., licensed trade)**
 - **Supply chains**
 - **Investors:**
 - *IP Protection; Un-authorized (re-) Transfers*
- **Broader Finding: Robust STCs**
 - **Facilitate import of licensed commodities**
 - **Promote mfg & export of dual-use products & services**
 - **Stimulate R&D, fabrication, prototypes**
 - **Assist in meeting non-plfn & anti-terrorism objectives**

STCs and Investor Sentiment



The screenshot shows a PwC website page for Thailand. The navigation menu includes Home, Services, Industries, Research & insights, PwC in the News, Careers, and Events. The article title is "Guru Speak: Better export controls will open a door to Thai prosperity". The author is Paul Sumner. The article text discusses the recovery of Asian economies and the impact of export controls.

pwc Thailand

Home Services Industries Research & insights PwC in the News Careers Events

PwC in the News

Guru Speak: Better export controls will open a door to Thai prosperity

This article appeared in the March 3, 2010 issue of the The Nations.

By Paul Sumner

ASIAN ECONOMIES are generally recovering well from the economic turmoil of 2008/9 and confidence seems high that Asia will experience another economic boom in the next two to five years.

Whether due to its rapidly expanding and maturing regional markets or its reliability as a cost efficient base for manufacturing, Asia is well placed to prosper from the gradual recovery of other economies too. Asia's massive semi-conductor industry, often cited as a barometer of wider business sentiment, forecasts strong demand/growth in coming months. As demand for electronic products continues to rise globally, so will Asia's prosperity. Besides China and India, Asean countries such as Thailand, Vietnam, Indonesia and the Philippines are also likely to prosper.

As Asian countries compete to stimulate new local businesses and attract big multinationals, many factors come into play. Cost, abundance of skilled labour, proximity to markets, etc, are obvious ones, but for some industries there are less obvious considerations. One such is the existence of export controls in the country in question.

What are export controls?

Export controls are laws and regulations established to create a control regime around certain sensitive products and technologies to prevent them falling into "the wrong hands". A special export licence is required to export products on the controlled list prescribed by the government. Controls regimes are usually introduced under international agreements to curb the proliferation of weapons of mass destruction and to combat terrorism.

“.... when multinationals in an affected industry want to move capabilities such as manufacturing and R&D to Asia from another country, they often consider the associated security issues. The **existence of an export control regime in a country is hence often a key factor** in their choice of location.”

Japan: Technology Transfer & Exporter Assurances

Importance of export control (contd.)

Effective export control secures and facilitates global trade

- Good reputation as a responsible country with effective export control earns trust from trade partner countries
- Facilitates the issuance of export license approval to your country



- Export control is not only a responsibility but can also be a benefit for your country and industry

Select Examples from Industry in India

- **(USA)** GE, Honeywell → R&D centres in India compliant with STCs of USA and of India. Lockheed, Boeing → strong STCs vital in all our local partners
- **(GERMANY)** SGL Carbon, Oerlikon-Leybold, Evonik → strong STCs are an essential pre-requisite for our vendors and JV partners
- **(SWEDEN)** SAAB → strong STCs mandatory for each of our vendors in India
- **(JAPAN)** Mitsubishi Electric, Toyota → strong STCs vital to our R&D, manufacturing and exports from India
- **Indian Companies**
 - **L&T** → strong STCs helped us export N canisters & equipment to USA
 - **Godrej** → strong ICP helped us import dual-use machines from Japan & Germany. We refused exporting chem equipment to M East; get faster XC clearance from DGFT
 - **GMM Pfaudler** → strong STCs vital factor in expanding our global trade
- **Robust STCs vital to value-added mfg, R&D, and export of goods & services**