# High Skills, Competitiveness and Social Cohesion in East Asia

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# What is Economic Competitiveness?

#### OECD and WEF:

national competitiveness refers broadly to the abilities of a country's institutions to compete internationally in a way that leads to sustained growth and high average incomes for its citizens.'

#### • Michael Porter:

the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the tests of international markets while simultaneously maintaining or expanding the real incomes of its citizens'



What are free and fair market conditions?

 Is competitiveness best measured by sustained growth or high national income?

 How far does high national income translate into high average living standards?

How equally is income distributed?

Productivity as best measure of underlying competitiveness

 Overall productivity (TFP) as combination of capital productivity and labour productivity.

Labour productivity measured as:

- Output per hour
- Output per employee
- Output per capita

## Strategies to raise overall productivity

- Increasing capital productivity
- Increasing employment rate
- Increasing working hours
- Increasing labour productivity per hour
  - ie through capital intensification, better skills, better work organisation etc
  - The latter 'high skills' route is preferable to many countries as it is most conducive to high life quality for all.

## The High Skills Project: Education and Training Routes to the High Skills Economy

#### A COMPARATIVE STUDY OF:

- Germany
- Japan
- Korea
- Singapore
- UK
- USA

High Skills: Globalisation, Competitiveness and Skills Formation, Oxford University Press

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### Research questions:

## What are the different national routes to the High Skills Economy?

- How stakeholders define HSE
- Current national skills profiles
- How they map onto competition strategies?
- What is the future vision of the HSE?
- What are the skills needed?
- Co-ordination of skills upgrading across system?

200 Interviews with Senior Managers in:

- Government agencies and Social partner organisations
- Educational institutions (secondary schools, colleges, universities)
- Large Companies in 4 sectors: Electronics, Motor Vehicles, Hotels and Banking

## Different national routes to competitiveness

The project found each country adopting different strategies for economic competitiveness, each relying on different skills formation strategies; different skills profiles and different facets of productivity.

Countries fell into two groups:

- Polarised high skills economies (USA, UK)
- High skills societies with wide distribution of skills (Germany, Japan).

Singapore was categorised as a developing high skills economy tending in the polarised direction.

# High skills economies and high skills societies

High skills/low skills economies:

- Polarised distributions of skills
- High ph labour productivity in some sectors but not others
- High income inequalities

High skills societies

- Wide distribution of skills
- High labour productivity across wide range of sectors
- Lower income inequality

Labour				
	GDP (PPP) per emplo	GDP (PPP) per employee	per hour	
UK	100	100		
Germany	107	117		
Korea	67	53		
Singapo	101	96		
Japan	97	104		
USA	132	126		

Source: IMD (1999) The World Competitiveness Yearbook, Lausanne, Swit



## Income distribution

	Ninth Decile of Income over Fifth Decile		<i>First Decile over Fifth Decile</i>		
	Early 1980s	Early 1990s	Early 1980s	Early 1990s	
Germany	1.63	1.64	0.61	0.65	
UK	1.72	1.99	0.68	0.59	
Japan	1.63	1.73	0.63	0.61	
USA	2.16	2.22	0.45	0.4	

(Source: W. Streek (1997), p 239)

#### NB Singapore wage spread similar to UK

## Household Income

Ratio of top 20% to bottom 20%

Singapore	13.7 : 1
US	13.2 : 1
UK	8.3 : 1
Taiwan	5.3 : 1
Japan	2.7 : 1

From : L. Low 1999

### Distribution of Skills in Labour Force



### Distribution of Skills amongst 25-29 Year Olds





Figure 2 Qualifications at Level 3 and above: UK 2003, France 2002, Germany 2002, Singapore 2002, US A 2003

Notes: Level 3 defined as equivalent to Level 3 in UK National Qualifications Framew ork; Singapore aged 20-24 and 25-29; total population and w orkforce all aged 15 and >15; Workforce in UK , Germany and USA aged 16-64, France, aged 15 and >15

# Skills profiles and economic and social outcomes

- Countries with high skills elites and polarised skills distribution (UK and USA):
  - Excel in knowledge-intensive and hi-tech industries (Software, biotechnology, chemicals, advertising, media, aero-engineering etc)
  - and industries based on polarised skills (banking)
  - Perform less well in medium tech industries based on intermediate skills
  - Have wider income differentials
  - Are less socially cohesive
  - But have flexibility for job creation in low wage sectors

# Skills profiles and economic and social outcomes

Countries with wide skills distribution (Germany, Japan and Korea):

- Excel in medium-high technology manufacturing industries based on professional elites and intermediate skills (autos, electronics, machine tools)
- But lack flexibility for knowledge-driven hi-tech industries
- Have narrow income differentials
- and tend to be more socially cohesive as societies
- Lack labour market flexibility for rapid job creation in low wage sectors

# Skills Distribution and Social Cohesion



### Trade Offs

Economists and policy makers often argue that there is an inevitable trade off between competitiveness and social equality and cohesion.

Competitiveness is said to require flexible labour markets which allow higher employment rates and greater innovation.

However, flexible labour markets are usually more polarised with many low quality jobs and greater income equality.

The High Skills Societies in our study have not been performing so well recently compared with the UK and the US, so many are concluding that the US model is preferable.

## The High Skills Society with High Employment Rates

However, recent research by de Mooij and Tang suggests that it is possible to achieve high GDP per capita through high labour productivity and high employment rates and also maintain relative equality of incomes.

Centralised wage bargaining and active labour market policies, unlike certain other features of labour market regulation, appear to allow high employment rates and low inequality.

The Nordic countries now represent the benchmark for the High Skills Society Model



### Benchmarking the East Asian Countries/Regions

The High Skills Project analysed only three of the East Asian Economies: Japan, Singapore and South Korea. At that time only Japan could claim to rank amongst the high skills economies, with high productivity in manufacturing and high GDP per capita.

Singapore was regarded as highly competitive developing economy which was not yet a high skills economy as such.

## Japan – High Skills Manufacturing Model

- High wage, high skills economy
- Wide distribution of skills
- Generalist knowledge and co-operative attitudes
- Relative equality of income distribution
- Competes on large firm manufacturing in wide range of sectors
- Particularly in medium technology industries based on intermediate skills
- But low productivity services and small firms

## Singapore – Developmental High Skills Model

 Competitive mostly in medium technology production and service industries based on intermediate skills

competitiveness derived mostly from factors other than high skills ie from:

- strategic location
- low-cost, disciplined, English-speaking workforce
- competent bureaucracy and planning
- social order and political stability
- good infra-structure and environment
- pro-business environment
- sound financial policies and services
- Not yet a 'high skills' economy

Committee on Competitiveness (1998):

'to realise this vision we require a quantum jump in capabilities'

#### Current Skills Profile in Singapore

#### Younger generations highly qualified:

- High school standards in Maths and Science (TIMSS)
- Cohort qualification rates exceed UK at levels 2, 3 and 4 ('O's; 'A' and high technical, and degrees)
- High output of engineers (5 per cent of cohort graduate compared with 2 per cent in UK)
- Rapid increase in qualifications levels

#### However, still not a high skills workforce

- Generational polarisation of skills
- 60 per cent of workers over 40 without full secondary education
- Only 10 per cent of workforce have intermediate qualifications as their highest
- 73 per cent of adults with less than level 3 qualification
- Small elite qualified at post graduate levels
- Relies heavily on imported skills



#### Figure 2 Qualifications at Level 3 and above: UK 2003, France 2002, Germany 2002, Singapore 2002, US A 2003

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#### East Asian Advance

East Asian economies have advanced very rapidly due to, inter alia:

- Geo-political advantages
- Rapid technology transfer
- Successful developmental states engaging positively with global market
- Rapid development of human resources

## The Flying Geese Model

Regional economic development in East Asia has occurred through a series of waves – first Japan, then the Four Dragons and now other S. E. Asian states.

Each country has starting by competing primarily on production efficiency and low cost, disciplined labour in manufacturing. As other competitors have come along, each has rapidly moved up market to the higher value-added high skills end of production and services.

Japan made the shift in the 1970s and the four tigers since 1980. Malaysia, Thailand, China and other countries also seeing to make this shift.

The Global Competitiveness Report rankings show where the countries are in terms of these economic shifts, using a Growth Capacity Index and an Innovative Capacity Index based on Michael Porter's analysis of the dimension of economic competitiveness.

#### Global Competitiveness Rank

Japan and the Four Tigers all rank in the top 25 economies on either GDP pc or global competitiveness, with Singapore and Taiwan in 6<sup>th</sup> and 5<sup>th</sup> place respectively on the latter.

Malaysia, China and Thailand clearly represent the next wave of advancing East Asian economies, each ranked between positions 20 and 50 on at least one of the two overall measures.

#### **Innovative Capacity Rankings**

'National Innovative Capacity is a country's potential – as both a political and an economic entity – to produce a stream of commercially relevant innovation' M. Porter.

#### ICR measures in four areas:

- Innovation and Policy Index (R and D tax credits; effectiveness of intellectual property protection; costs of tariff restrictions)
- Cluster Environment Index (sophistication of domestic customers; extent of local competition; extent of product collaboration)
- Linkage Index (prevalence of R and D institutions; venture capital availability)
- Company Operation and Strategy Index (extent of competition on innovative products and services; sophistication of marketing; pay linkage to productivity)

Singapore and Taiwan rank very highly on all of these measures.

#### Global Competitiveness Report Innovative Capacity Index

Country	Innovative Capacity Index	Global Competitiven ess Rank 2003	GDP per Capita 2002	Proportion of Scientists and Engineers Index	Innovation Policy Index	Cluster Innovation Environment Index	Innovation Linkages Index	Operations and Strategy Index
United States	1	2	1	4	3	2	1	1
Finland	2	1	15	3	2	3	2	8
United Kingdom	3	15	18	17	7	13	3	3
Japan	4	11	14	2	17	1	13	4
Germany	5	13	12	12	10	4	11	5
Singapore	6	6	20	6	1	12	14	10
Taiwan	13	5	n/a	16	5	6	20	15
Korea	20	18	27	20	24	16	18	21
Hong	25	24	13	64	26	15	23	11
Kong SAR								
Malaysia	35	29	42	59	16	18	37	31
China	40	44	65	43	45	26	40	56
Thailand	47	32	53	69	34	30	45	28
Vietnam	52	60	77	52	48	34	54	67

### Innovation as key to Advanced Competitiveness

Innovative capacity can be seen as one of the main keys to achieving high levels of competitiveness through high value-added high skills products and services.

As Michael Porter writes (World Economic Forum *Global Competitiveness Report*) :

'International competitiveness increasingly depends on innovation with continued operational improvement in education and infrastructure now a given, and with local companies all able rapidly to acquire and deploy technology from around the world, producing standard products using standard methods no longer sustains competitiveness'

#### Implications for East Asian states

Developing a policy and enterprise environment conducive to innovation is clearly essential for the East Asian states.

Equally important is the development of the high levels of human capital for innovation including:

- Creative talents
- Frontier basic science skills
- Entrepreneurial skills

#### Dilemmas

East Asian states have – or are rapidly achieving – high levels of education throughout their populations.

However, the creative and entrepreneurial skills have often been neglected.

### Trade Offs 2

Several countries, like Japan and Singapore, seek to increase their output of creative talents through:

- Liberalisation of systems
- Diversification of institutions
- Flexing up of curricula and assessment
- Emphasising excellence

Singapore also relies heavily on importing foreign talents.

#### Potential Costs

Increasing diversity, choice and specialisation in education may enhance output of creative talents but it may also:

- Increase educational equality
- Undermine collective socialisation and social cohesion

Importing foreign talents is essential but can also undermine social cohesion.

#### Managing the contradictions

East Asian states generally have a good record of combining rapid growth with relative equality and social cohesion.

Kaoru Sugihara recently argued that these characterise a new East Asian model of development and provide an alternative to western models of development.

How well the region manages the dilemmas of combining increasing creative and innovative capacity with social equality and social cohesion may well determine whether they are to become knowledge economies or `Knowledge societies'