

Sharing forum: Global trends &
Enriching education
to prepare for
competitive **glocal** citizens

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Secretary for the Board of Higher Education



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November 30th 2013

Global trends

Global Trends

- **Increase in global population from 7 to 9 Billion people**
- **Rise in global ageing population**



Impact

- Less fresh water availability per capita
- Increased demand of food +70%
- Increased demand of meat +70%
- Increased demand of grain +43%
- Increased demand of healthcare products and services

-
- **Depletion of oil as main energy source**



- Oil price to reach uneconomical level

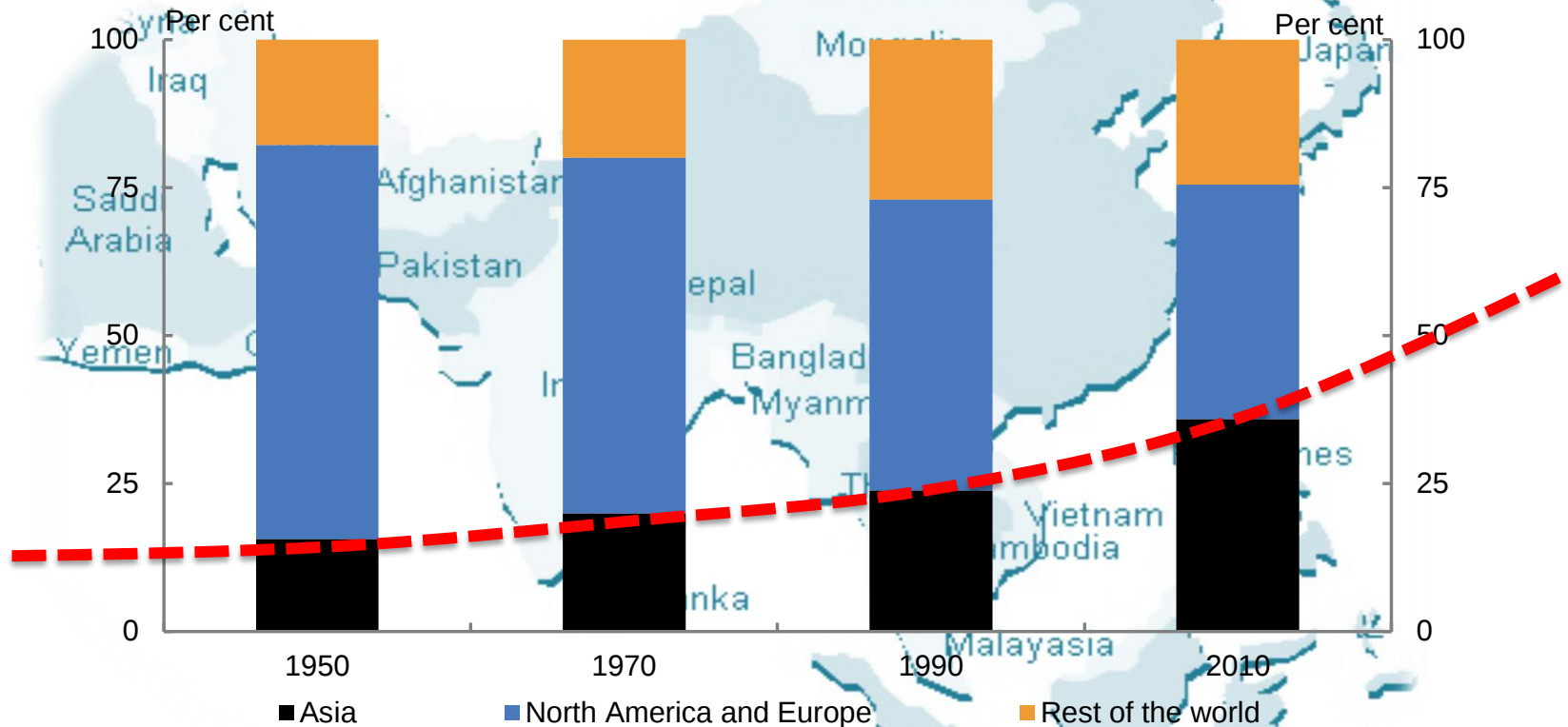
-
- **Shift of Economic power to Asia. By 2050, Asia will contribute 50% of global GDP**



- Rising consumption of goods and services in Asia
- By 2050, India & China alone will have 100 million high income households
- Increasing demand in quality

Asian Century

Chart 1.1: Asia's rising
Share of world output

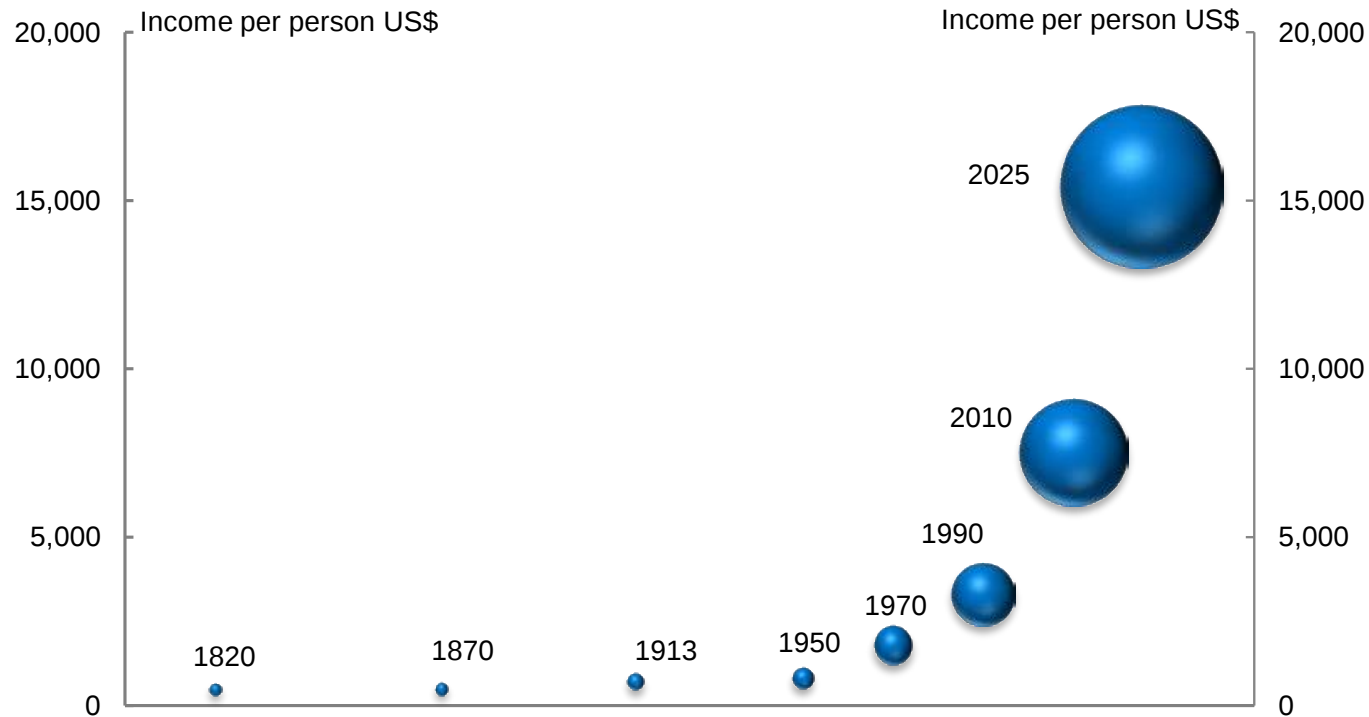


Note: GDP is adjusted for purchasing power parity (2011 prices). See glossary for the definition of country groupings in this chart.

Source: Conference Board (2012).

Asia continue to rise

Chart 2.1: Asia's economic resurgence is set to continue

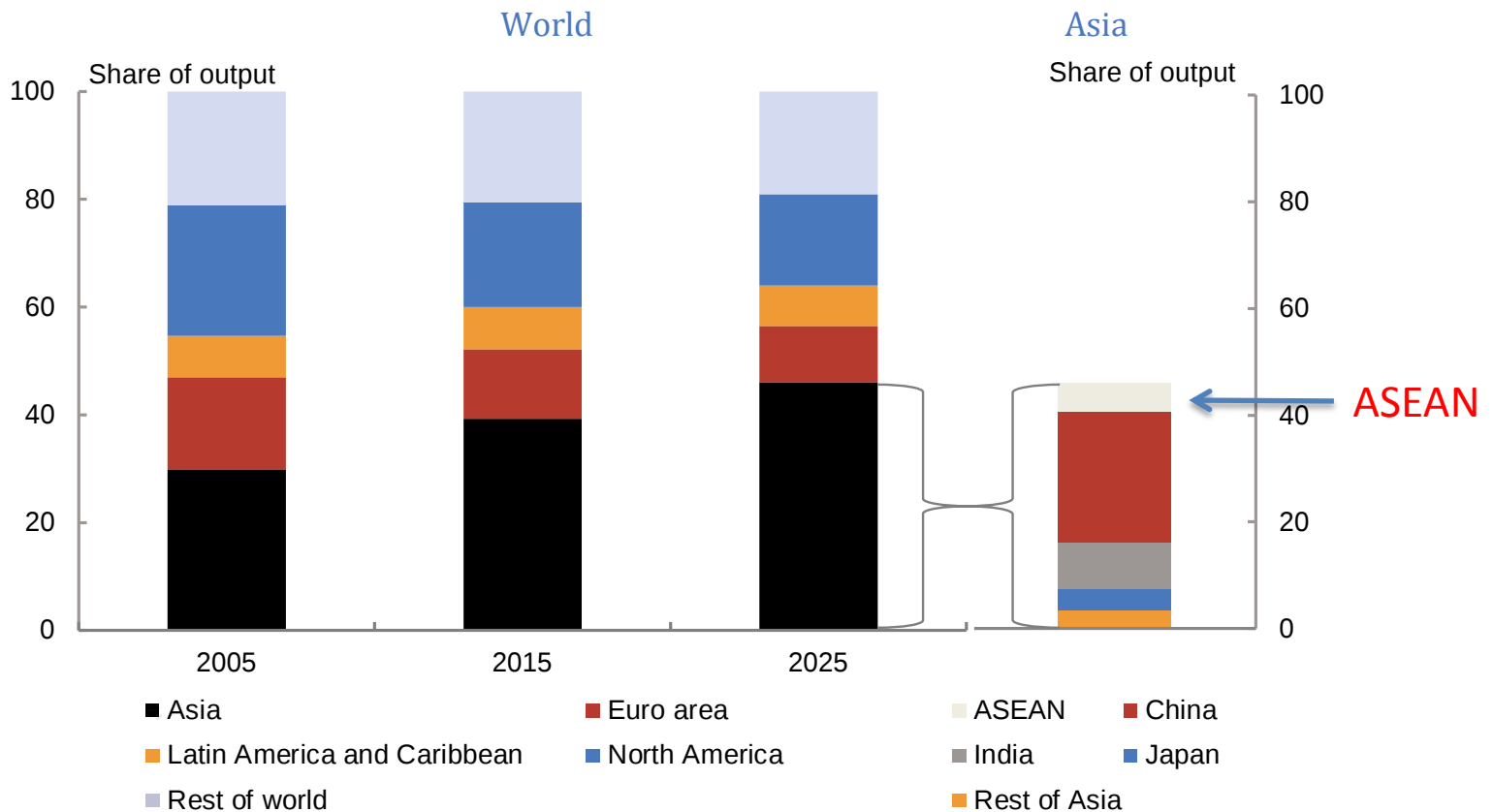


Note: Bubble area reflects the size of GDP. GDP adjusted for purchasing power parity (2011 prices). See glossary for definition of Asia and description of Treasury projections. See Appendix A for a description of Asia's resurgence to date.

Sources: Maddison (2010), Conference Board (2012), IMF (2012c) and Treasury projections.

World output shares

Chart 2.3: World output shares

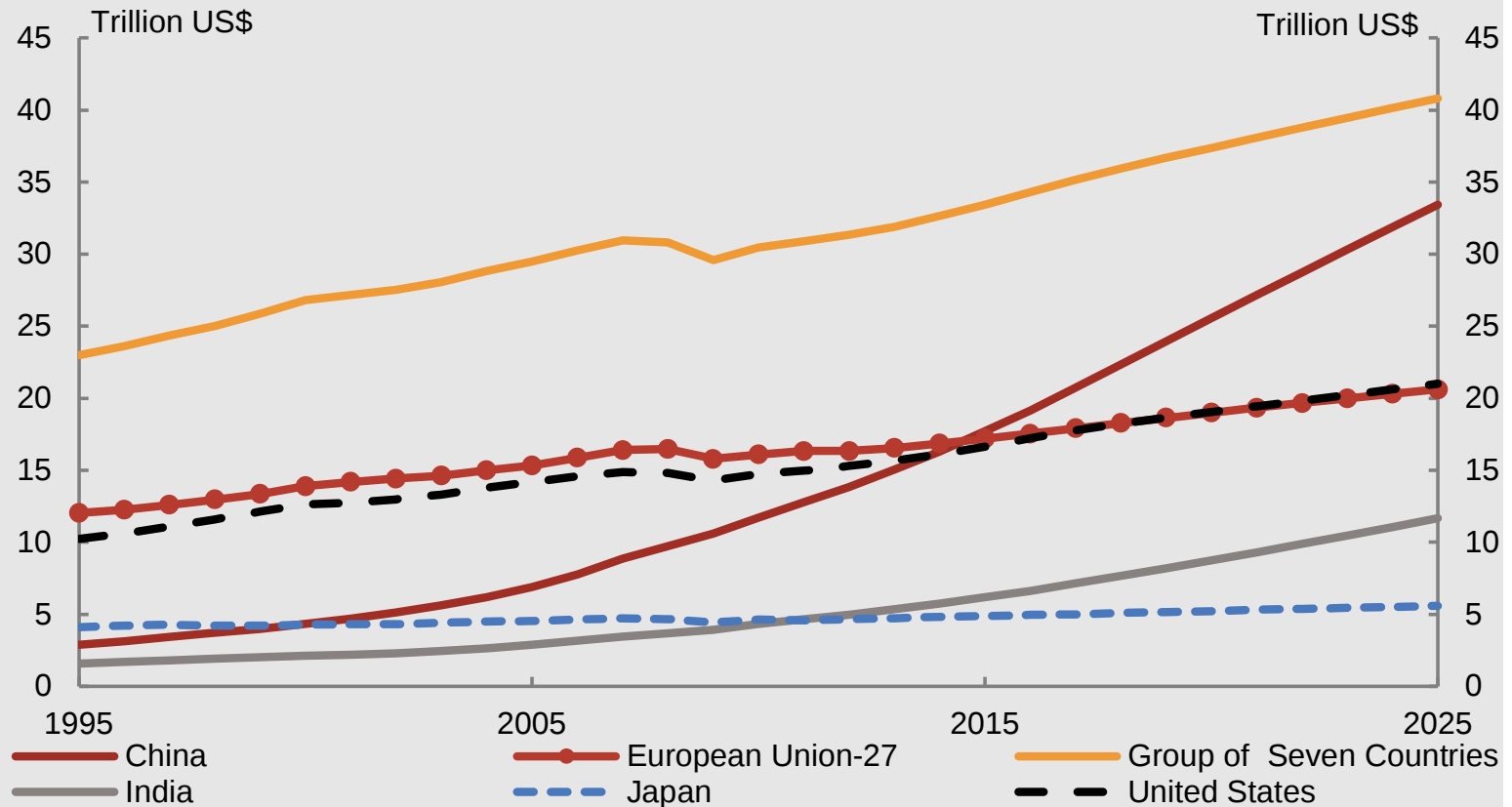


Notes: GDP adjusted for purchasing power parity (2011 prices). See glossary for the definition of country groupings.

Sources: Conference Board (2012), IMF (2012c), Maddison (2010) and Treasury projections © Nizam, 2013

Takeover of output levels

Chart 2.4: Takeover points of absolute output levels



Note: GDP adjusted for purchasing power parity (2011 prices). See glossary for definition of country groupings.

Sources: Conference Board (2012), IMF (2012c), Maddison (2010) and Treasury projections.

Shifting Power

Fading giants...

Produce 10% world oil and gas production
Control 3% world reserves



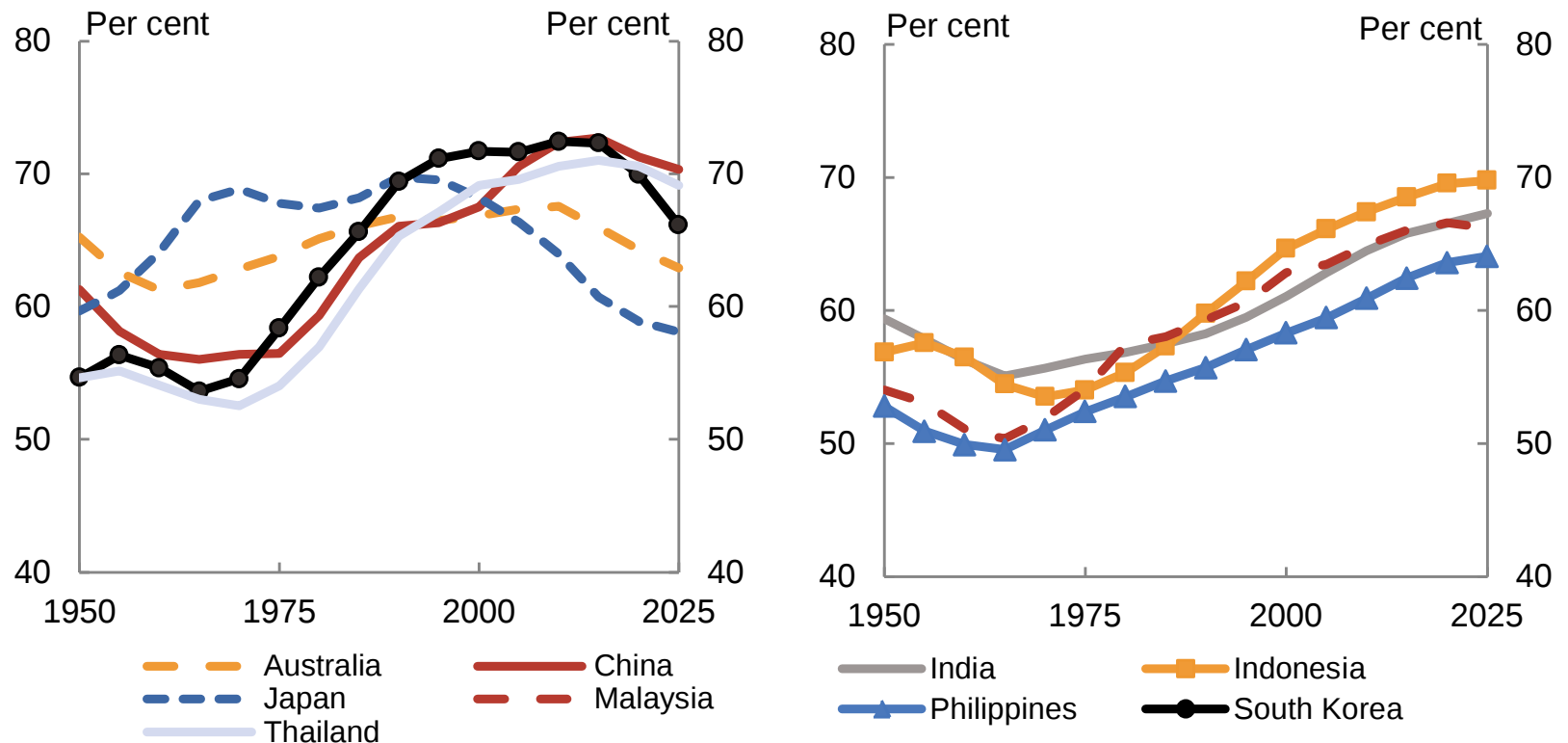
Emerging giants...

Produce 1/3 world oil and gas production
Control > 1/3 world reserves



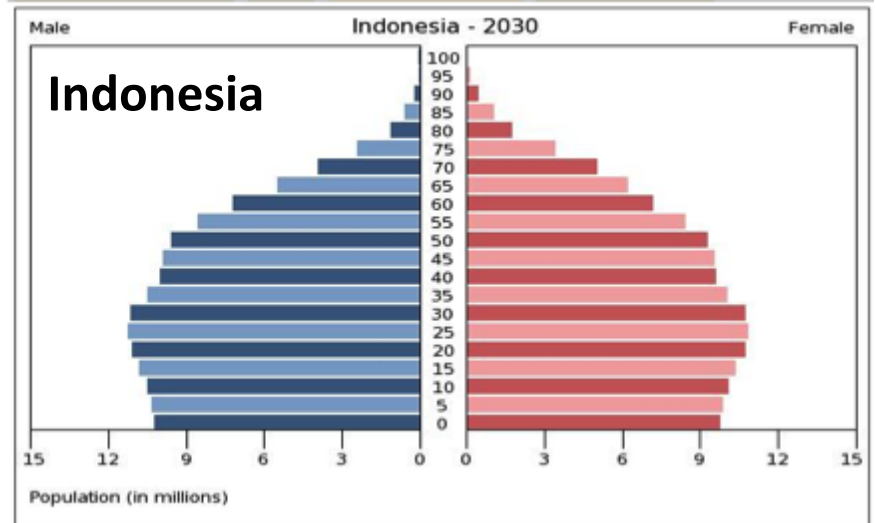
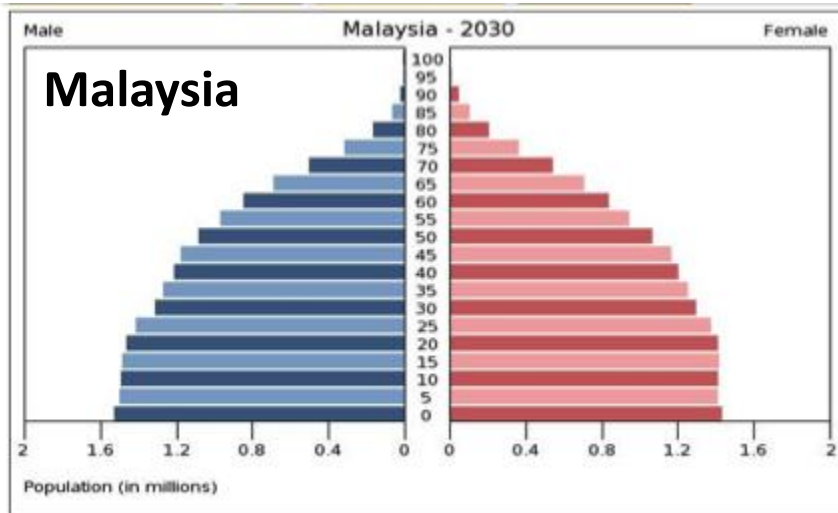
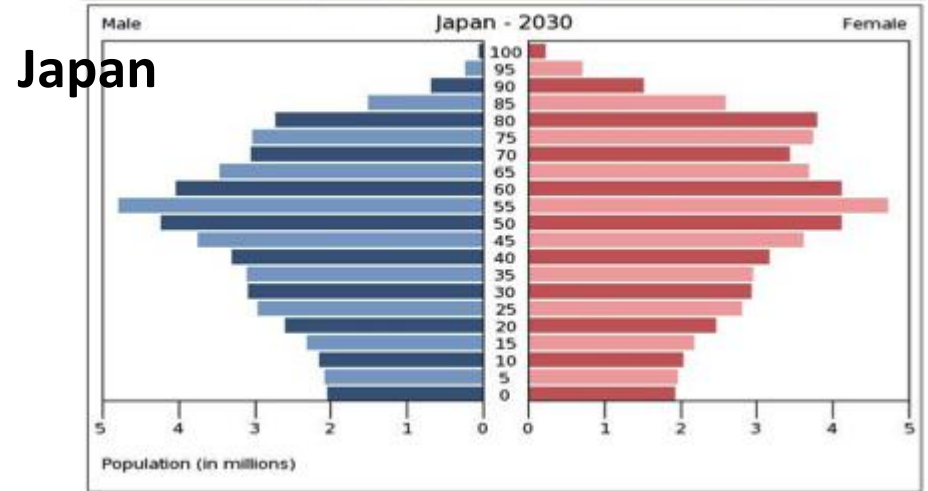
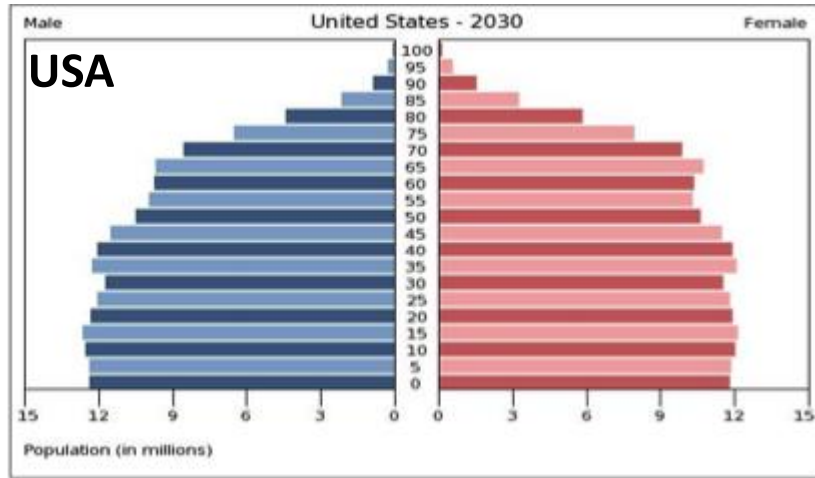
Demographic dividend

Chart 1.2: Asia's demographic dividend
Share of working-age population



Source: UN (2011b).

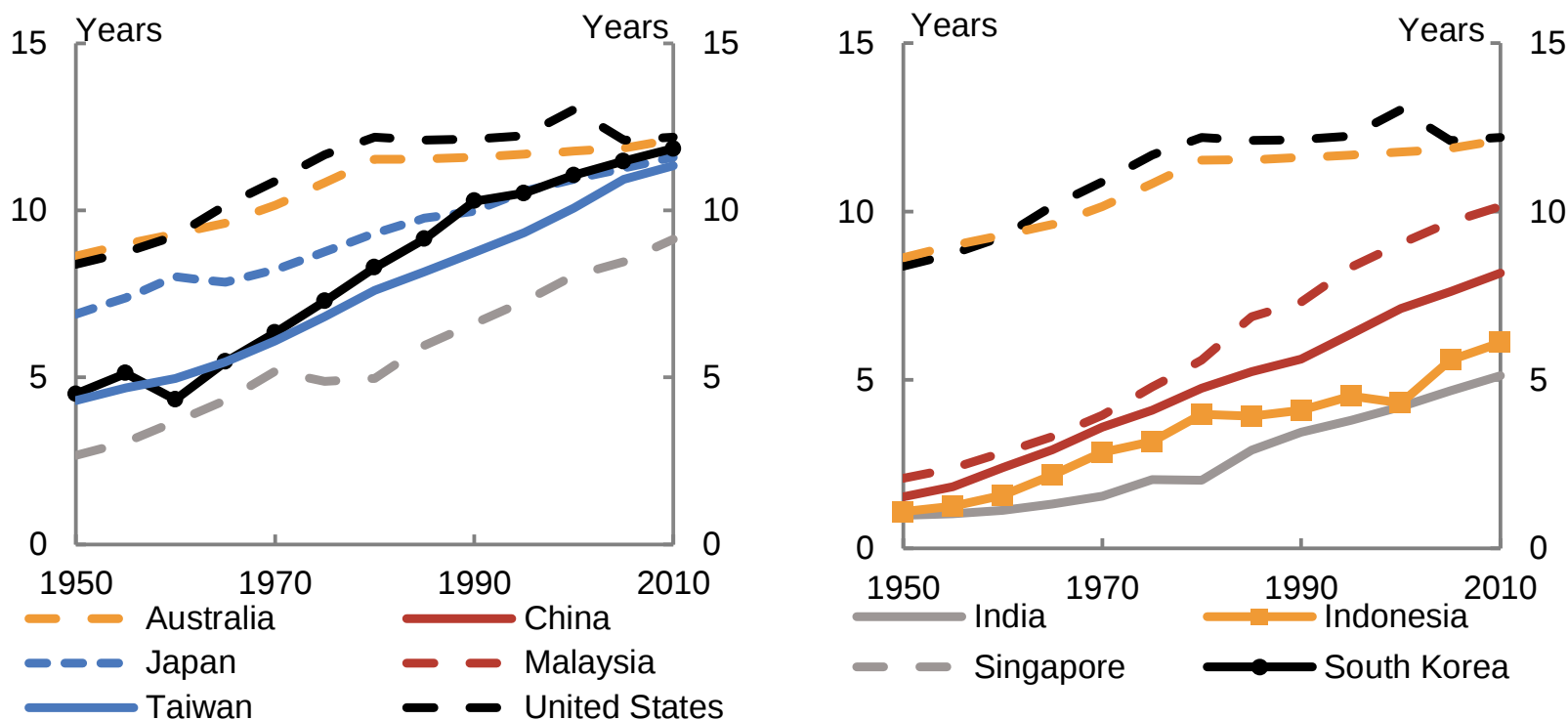
Comparison of Demographic Profiles in 2030



Diolah dari world demography, 2011

Average years of formal schooling

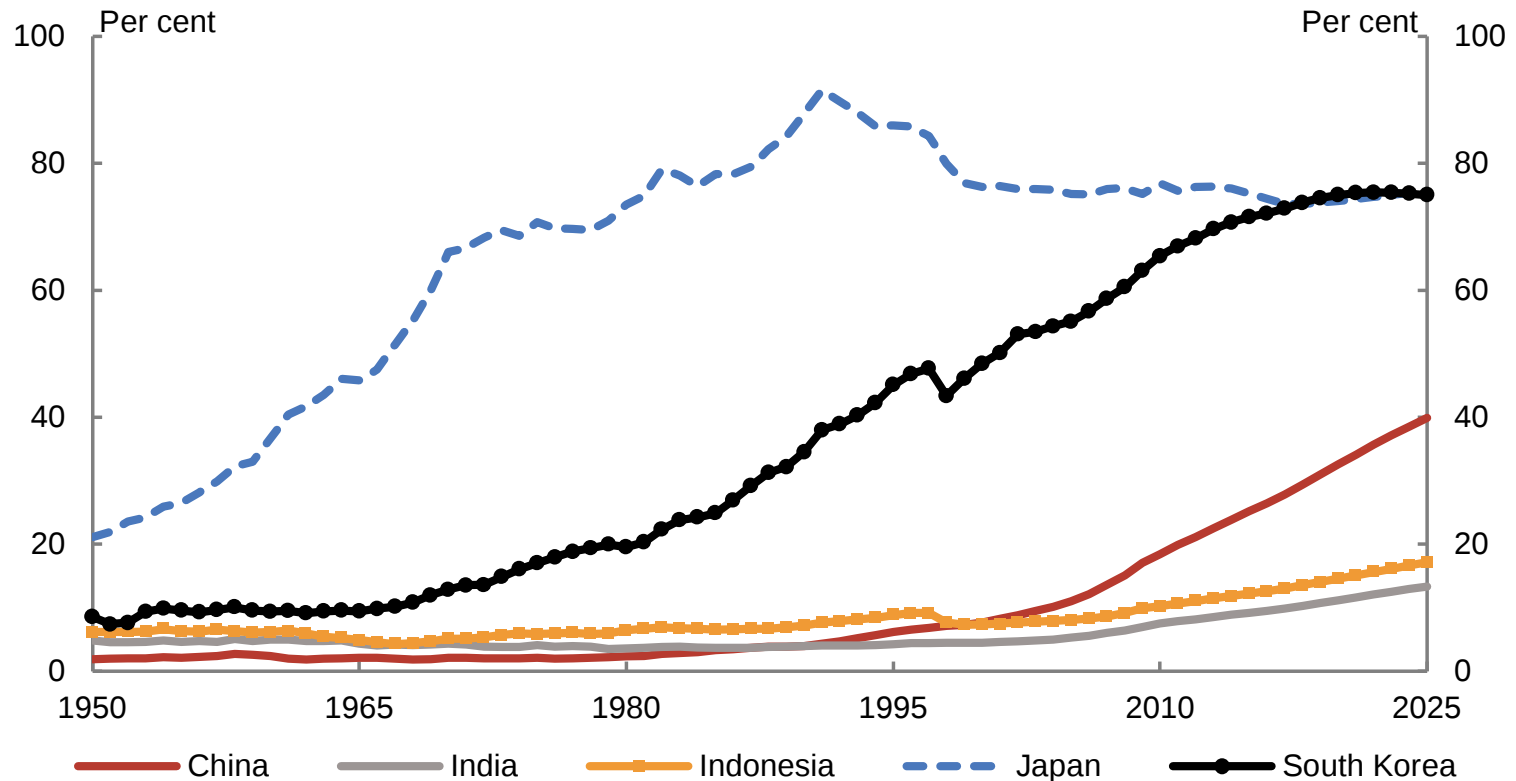
Chart 1.3: Average years of formal schooling
Population aged 15 and above



Source: Barro & Lee (2010).

Output per person

Chart 2.6: Output per person
Per cent of United States output per person



Note: GDP adjusted for purchasing power parity (2011 prices).

Sources: UN (2011b), Conference Board (2012), IMF (2012c), Maddison (2010) and Treasury projections.

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Indonesia NATURAL Endowment

Indonesia's Natural Competitive Advantages

- **Vast natural resources potential**

- Geothermal: 40% of world energy
- Nickel: 12% global reserves
- Tin: 2nd largest producer
- Coal: 2nd largest exporter
- Bauxite: 4th largest producer

- **Vast agriculture potential**

- CPO: Largest exporter
- Cocoa: 2nd largest producer
- Large and fertile agricultural land
- Tropical weather

- **Large productive population**
- **Rise of Consumer Spending Power**

- Based on 2010 GDP per capita (US\$3,005), Indonesia has reached the critical threshold → **rapid growth in consumption, discretionary and luxury spending**
- Urbanization

INDONESIA Potentials

Agricultural Technology

- Increased productivity during **seeding, planting, harvesting** processes
- Industrialization of **post-harvest** processes to increase added value

Biotechnology

- **Genetic engineering in agriculture** to increase yield and tolerance to weather
- Enhance nutrition and health, as well as new medications

Alternative Energy Sources

- Focus to develop **alternative energy sources**:
Geothermal, bio-fuel, solar, wind, wave, hydrogen

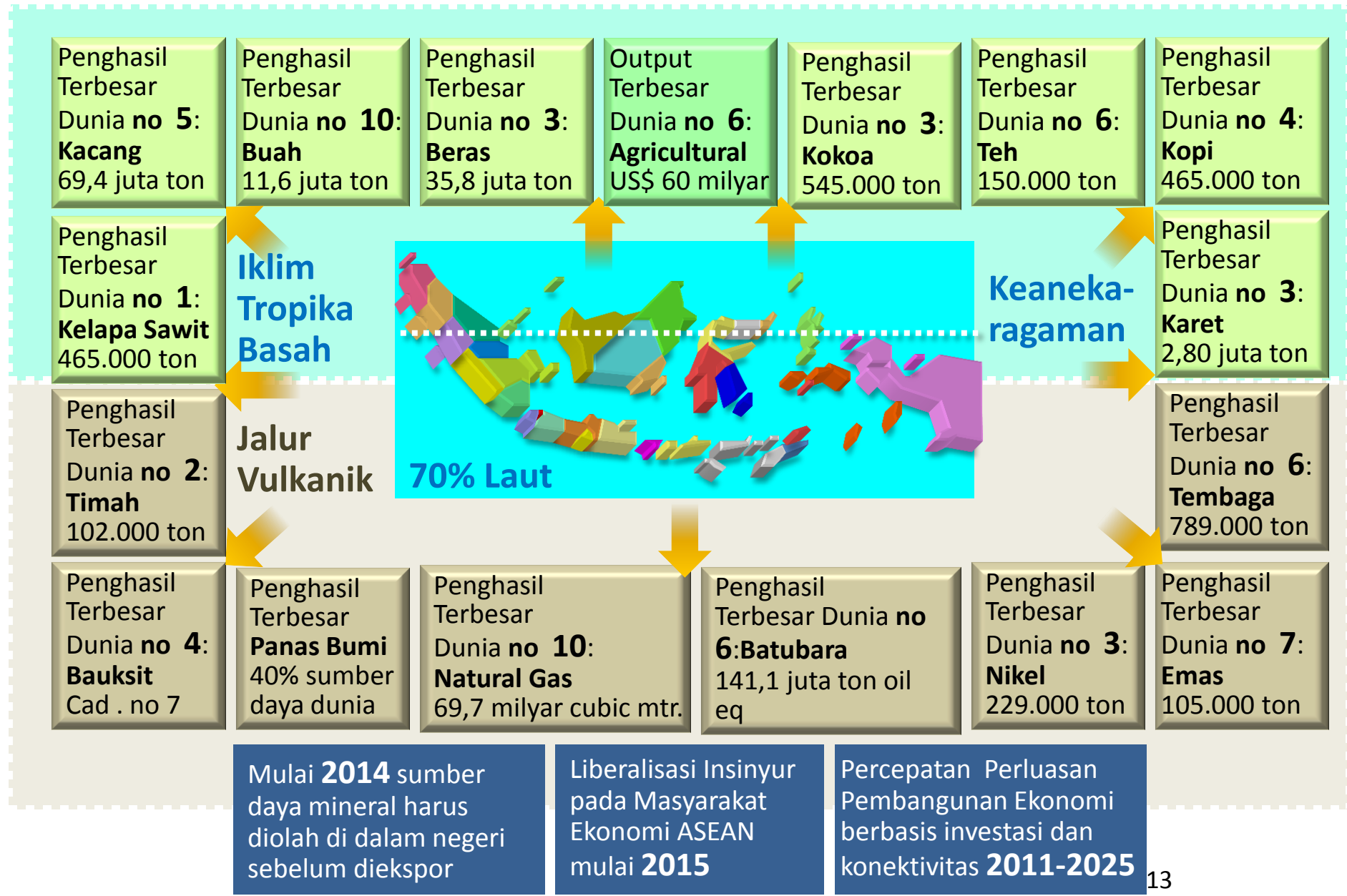
Advanced Natural Resource Processing

- Advanced technologies in **exploration and extraction**
- High tech **downstream processing** facilities to create value added products

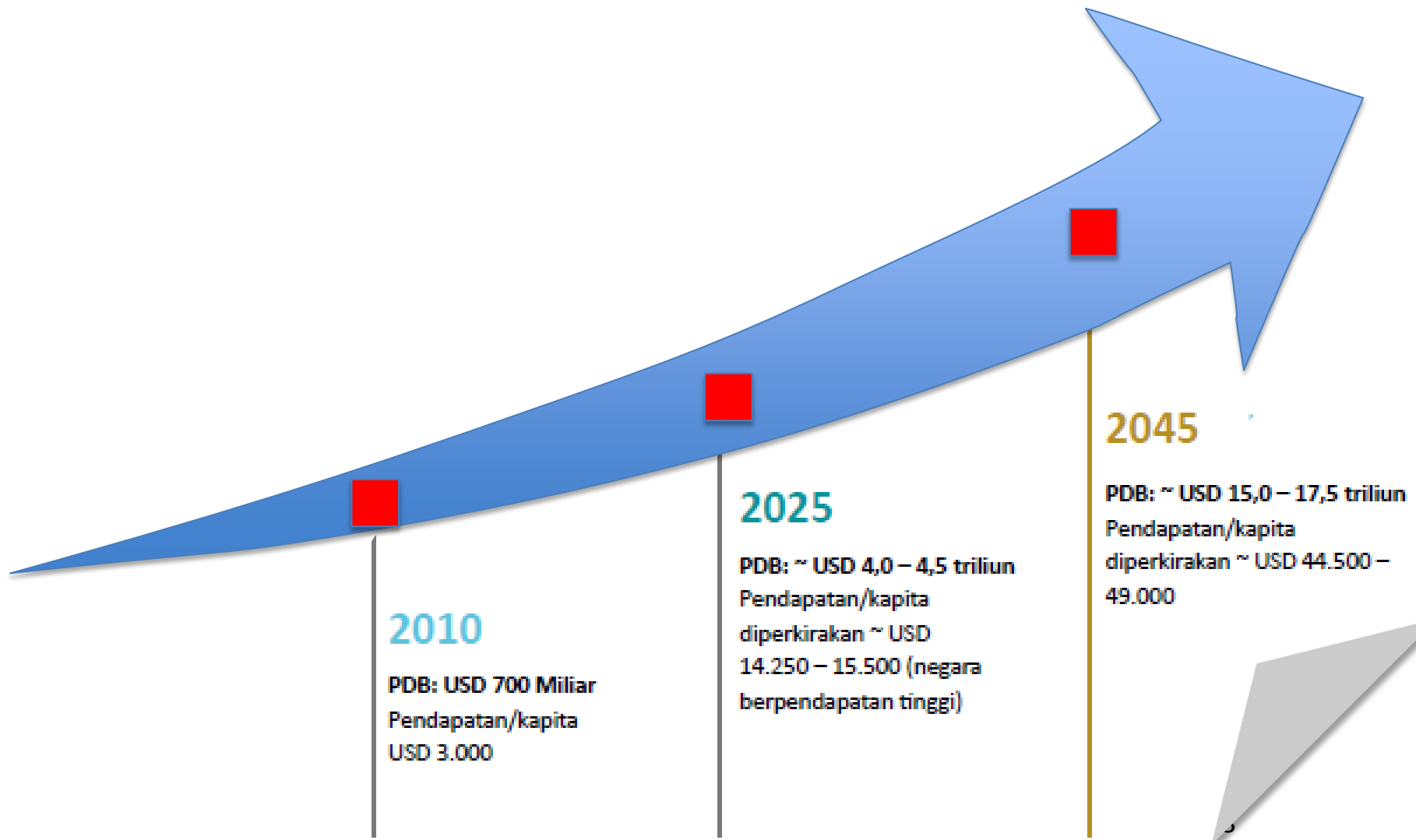
Enhanced Manufacturing Capabilities

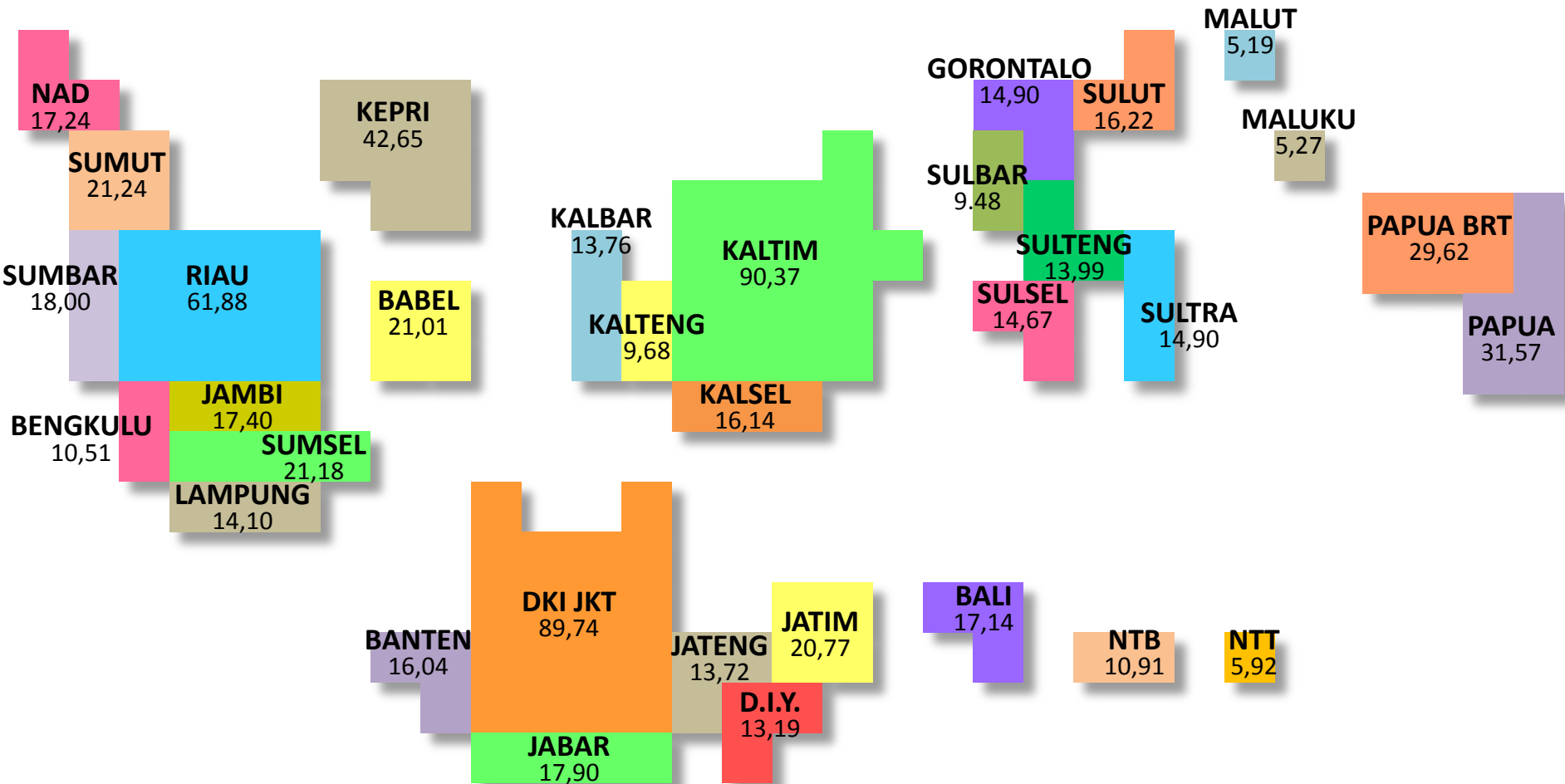
- Facilitate adoption of **state-of-the-art manufacturing** capabilities across industries to achieve: Larger capacity, better quality, and efficiency

3 Faktor Utama: 1. SDA: Perlu Inovasi, Nilai Tambah, Kemandirian



Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia 2011 -2025



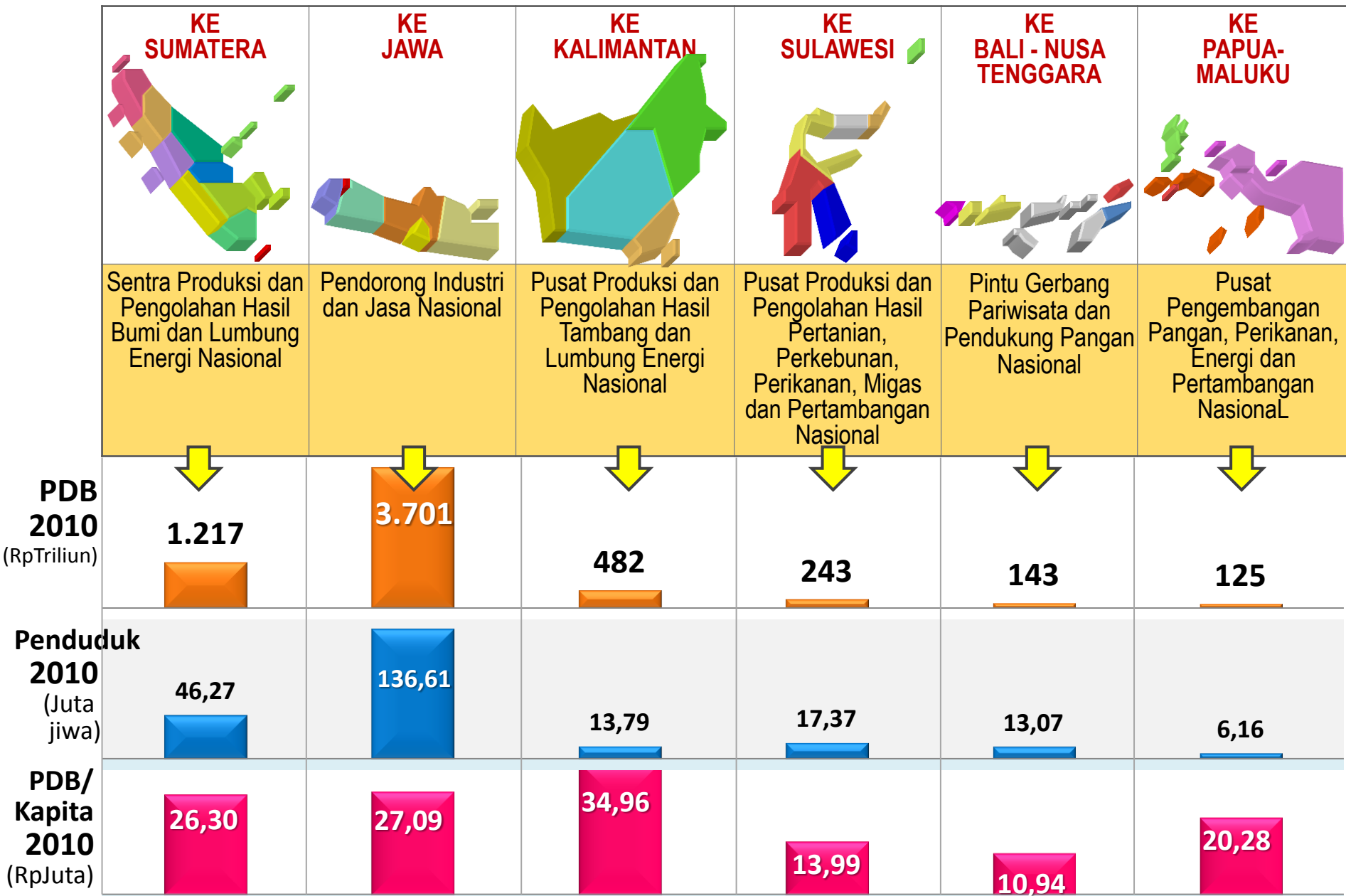


Tiga Tertinggi

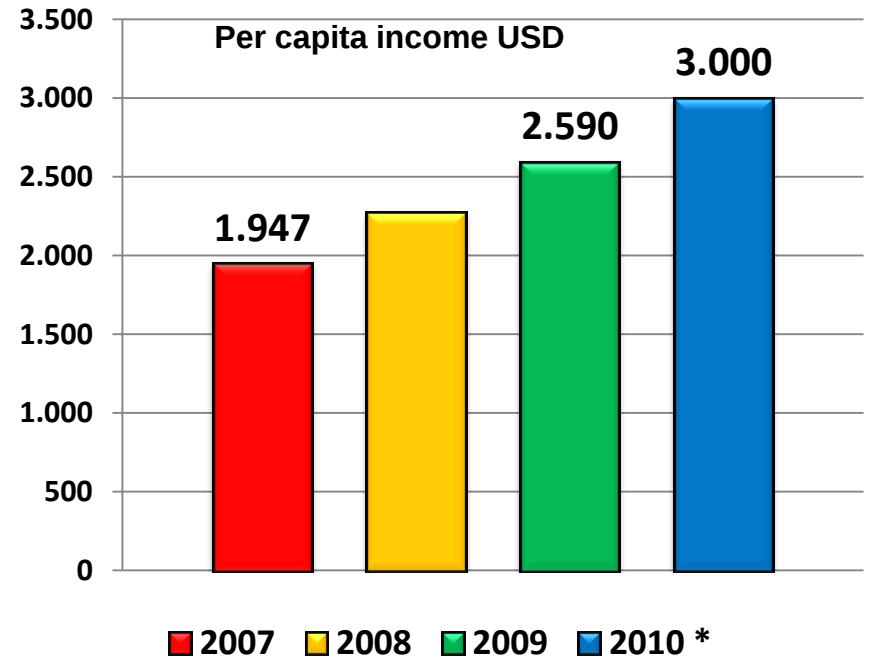
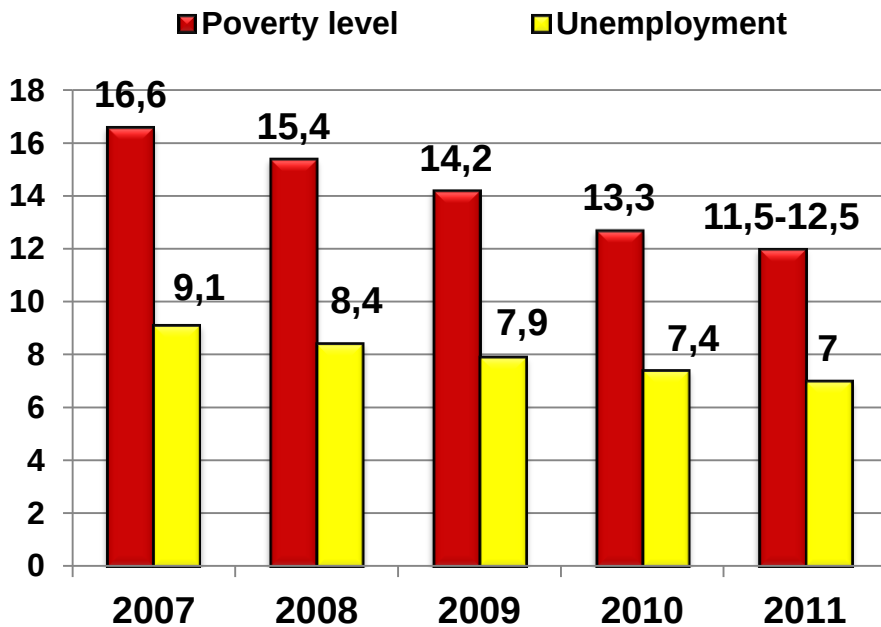
KALTIM	Rp 90,37 juta	USD 10.095
DKI Jakarta	Rp 89,74 juta	USD 9.996
RIAU	Rp 61,88 juta	USD 6.913

Tiga Terendah

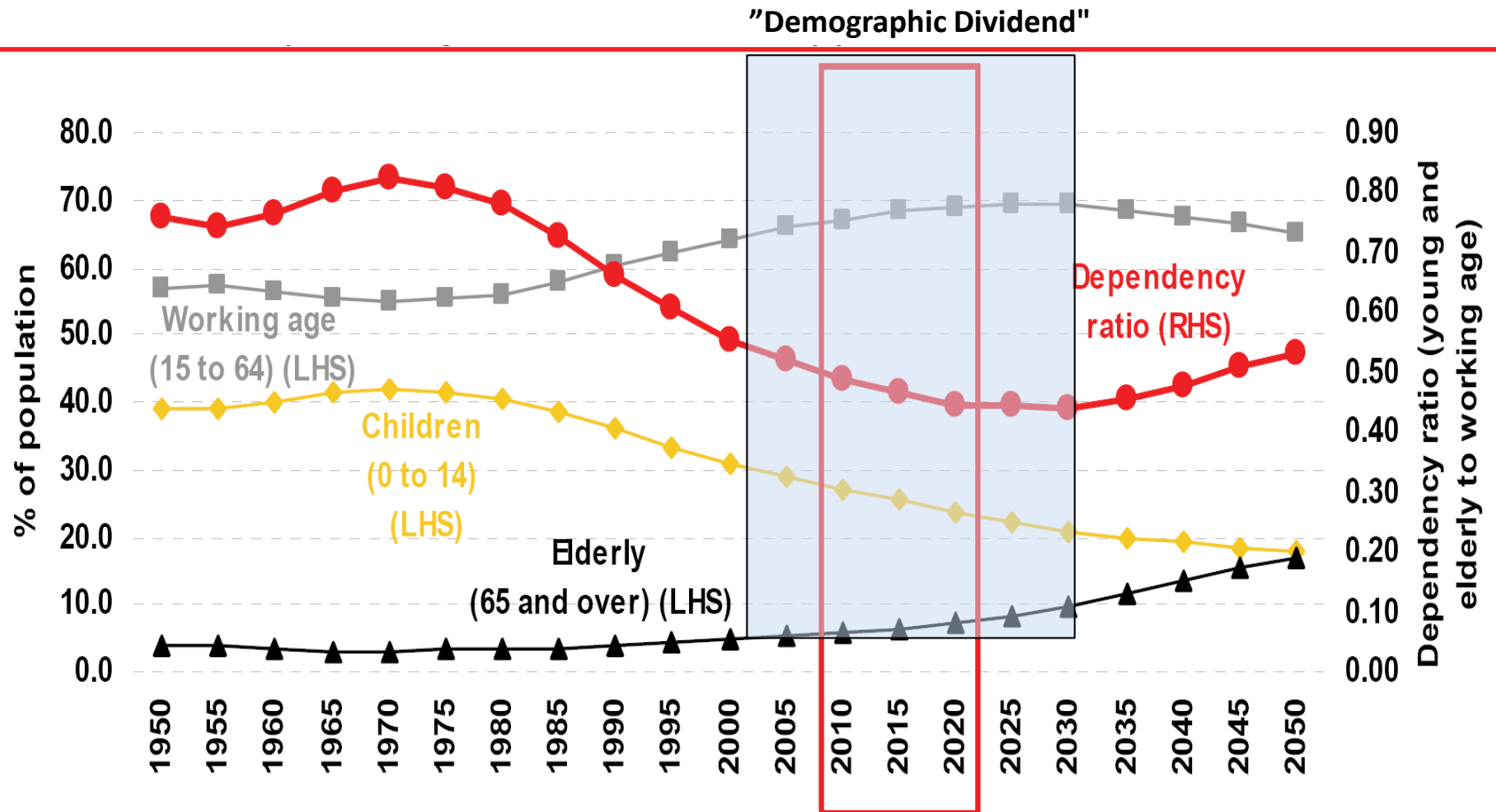
NTT	Rp 5,92 juta
MALUT	Rp 5,19 juta
MALUKU	Rp 5,27 juta



3 Faktor Utama: 2. Pengalaman



3 Faktor Utama: 3. SDM: demographic dividend

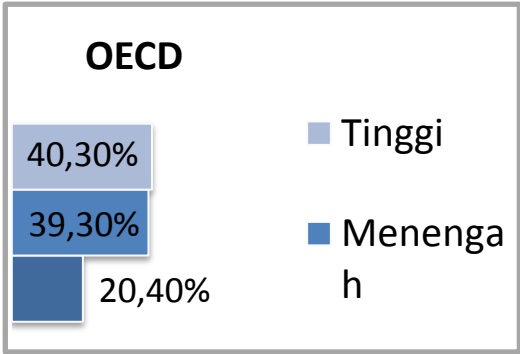
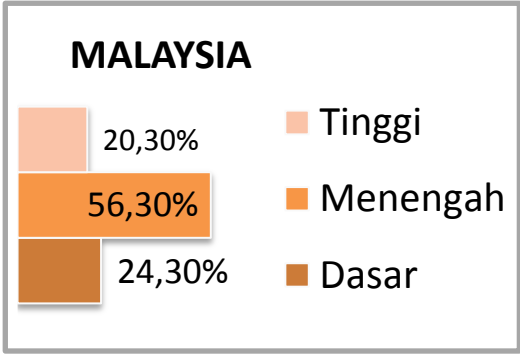
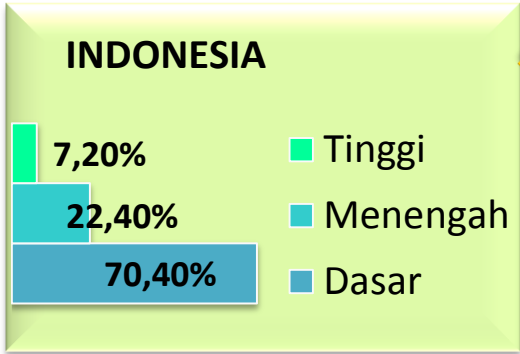


Demographic Disaster!



Tantangan Sumberdaya Manusia

Pendidikan	2001	2006	2010
SD/tidak tamat SD	63.0%	55.5%	51.5%
SMP	17.7%	20.2%	18.9%
SMA	10.3%	12.7%	14.6%
SMK	5.5%	6.2%	7.8%
Diploma I,II,III	1.6%	2.2%	2.7%
Universitas	1.8%	3.2%	4.6%



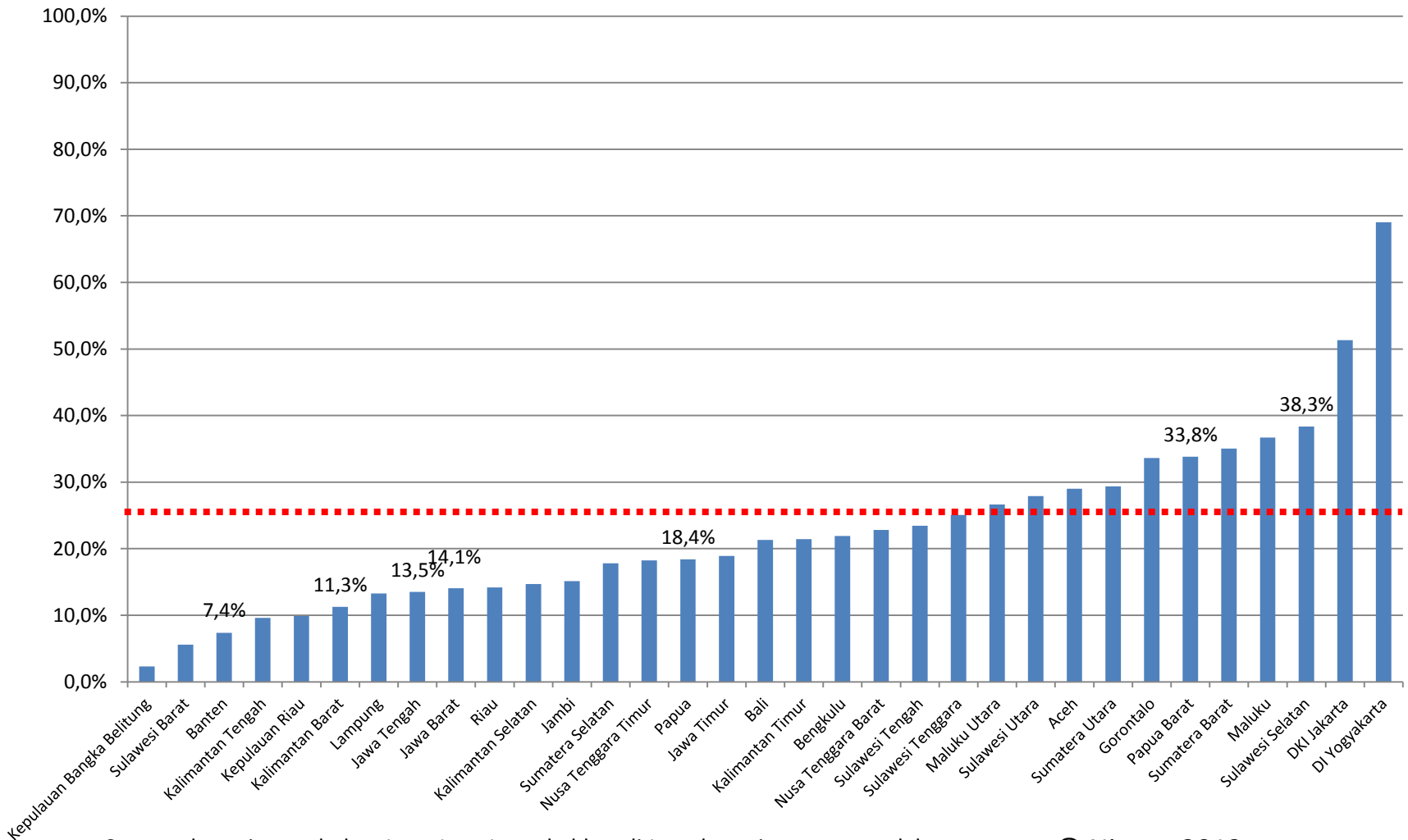
164%

Dari 7,2% menjadi 19% di tahun 2025

96%

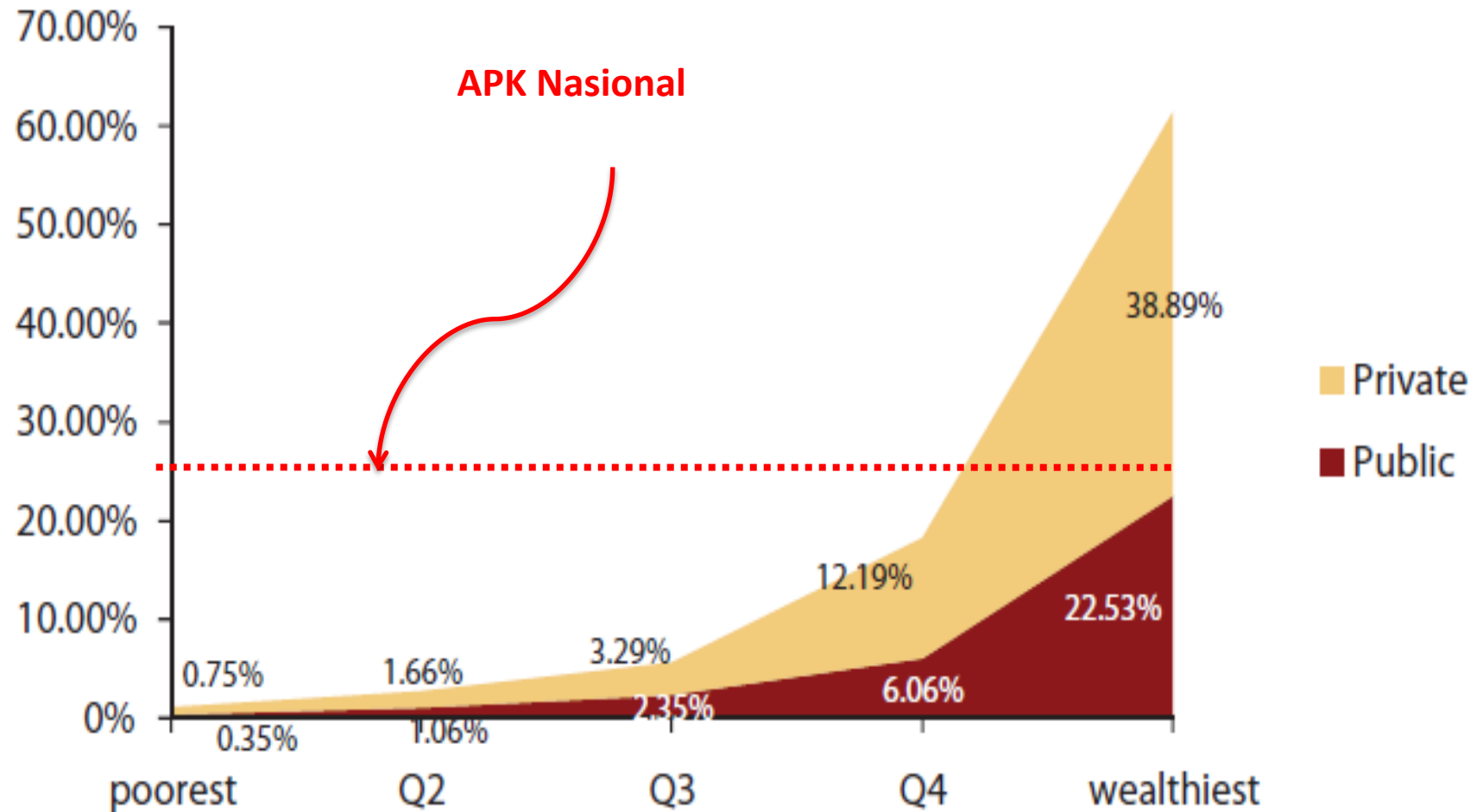
Dari 22,4% menjadi 44% di tahun 2025

Target

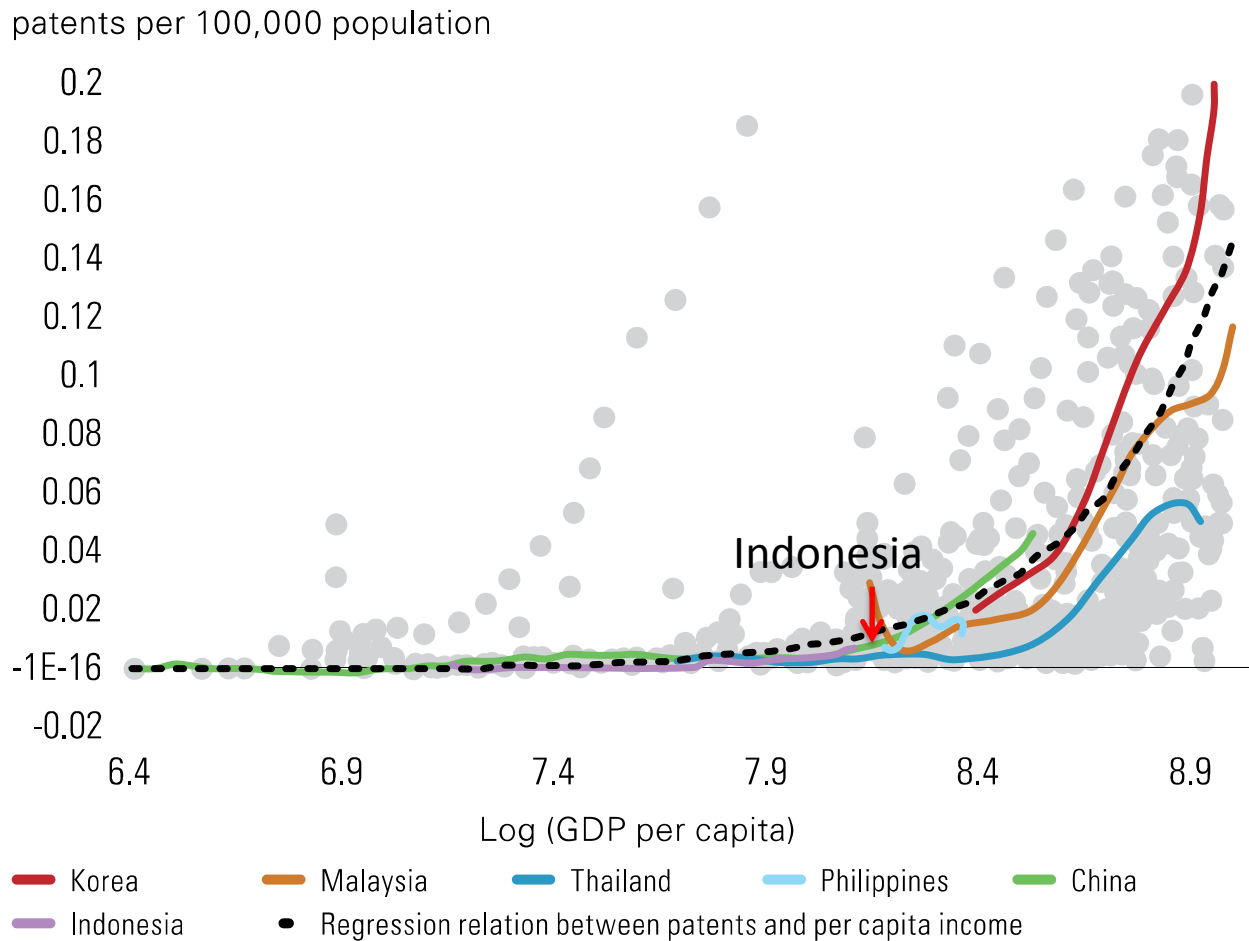


Catatan: kesenjangan bukan Jawa-Luar Jawa, bahkan di Jawa kesenjangan sangat lebar

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Patent dan Income per-capita



Source: Brahmabhatt and Hu, 2010.

Indonesia masih rendah sekali dalam perolehan paten per-capita



2,5 USD/kg



30 USD/kg



28 gram = US\$ 82

Baru bisa jual tanah-air?



Merusak Lingkungan?

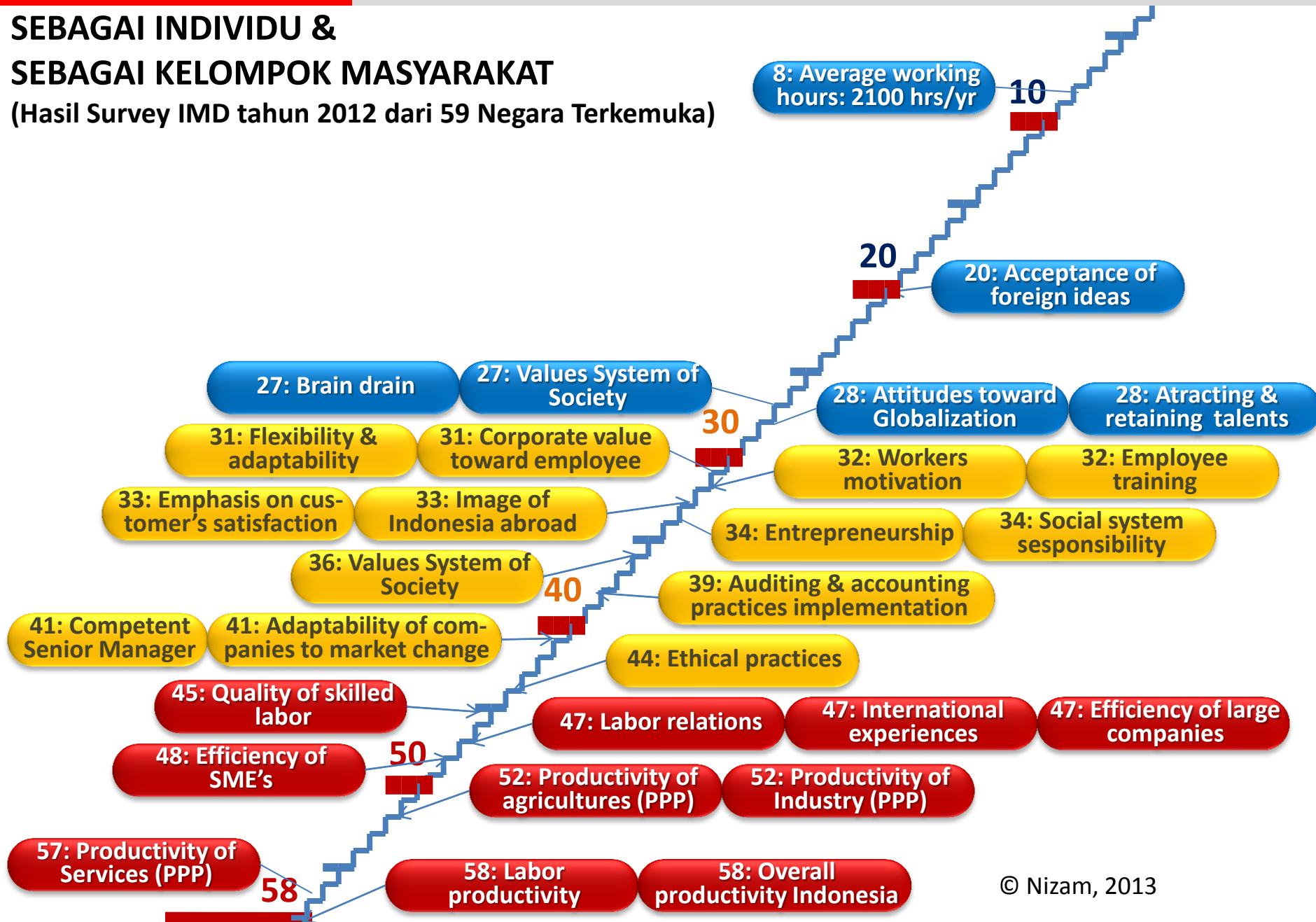


Kunci kemajuan:

SDM dan IPTEK



**SEBAGAI INDIVIDU &
SEBAGAI KELOMPOK MASYARAKAT**
(Hasil Survey IMD tahun 2012 dari 59 Negara Terkemuka)



Tantangan Pengembangan Dikti : Universal



Tantangan Pengembangan Dikti : Nasional



Bahan baku utama



Pertanian Tradisionil

- Keanekaragaman tanah, posisi, hasilkan keberagaman buah & biji
- Iklim tropika basah hasilkan panen yang tidak seragam sepanjang tahun
- Ketergantungan waktu pada alam

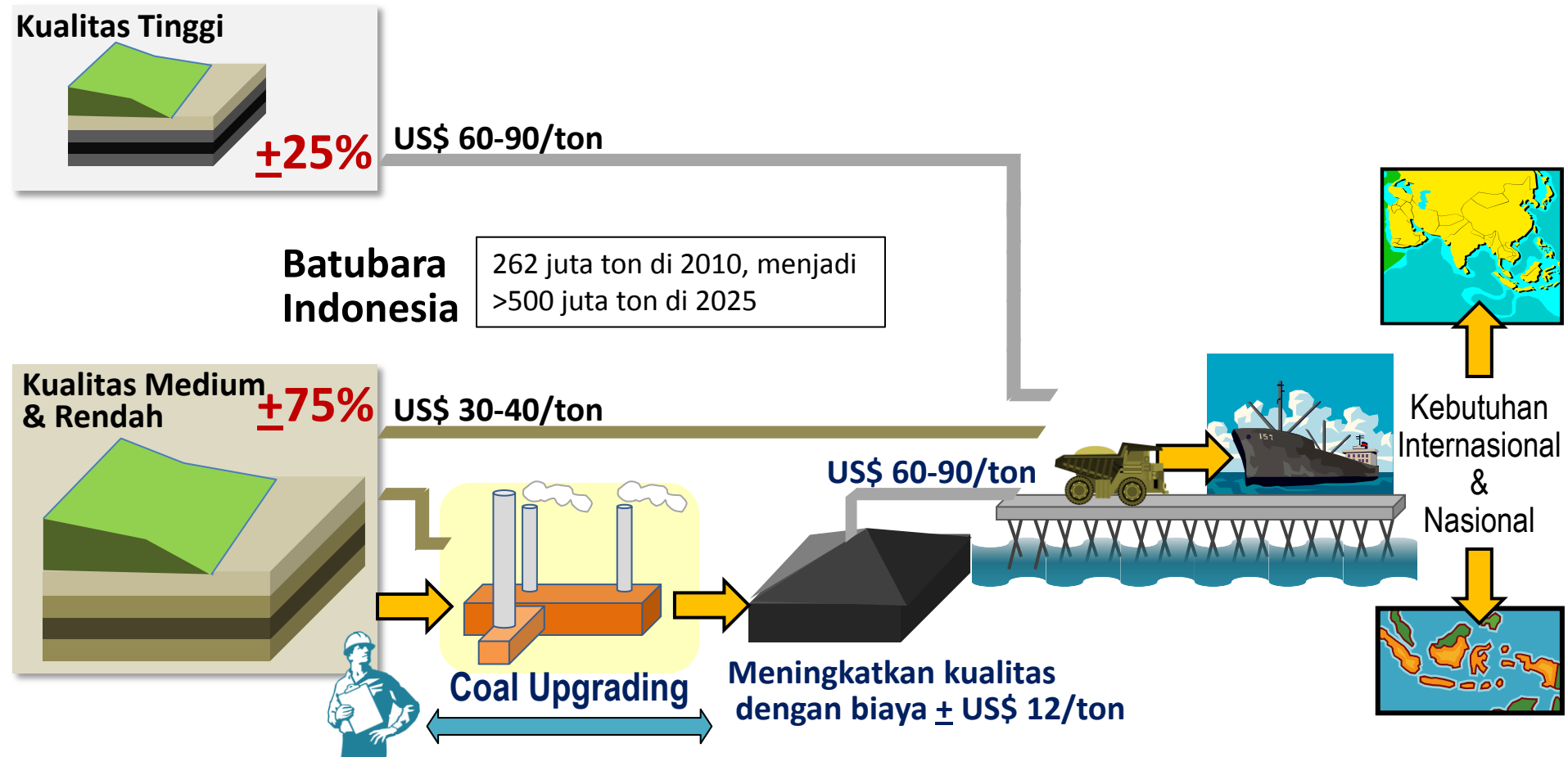
Gap yang perlu diatasi melalui inovasi teknologi

Industri Pengolahan

- Perlu pasokan bahan baku yang seragam (kering, ukuran, berat, rasa)
- Perlu pasokan secara rutin dan berkelanjutan
- Perlu ketepatan waktu cukup umur agar tepat kandungannya

Contoh 2

Penggalan Nilai Tambah: BATUBARA



Low rank coal (lignite):

ROM
AR Calorie 2200 - 3700 kcal/kg
TM 40-60%

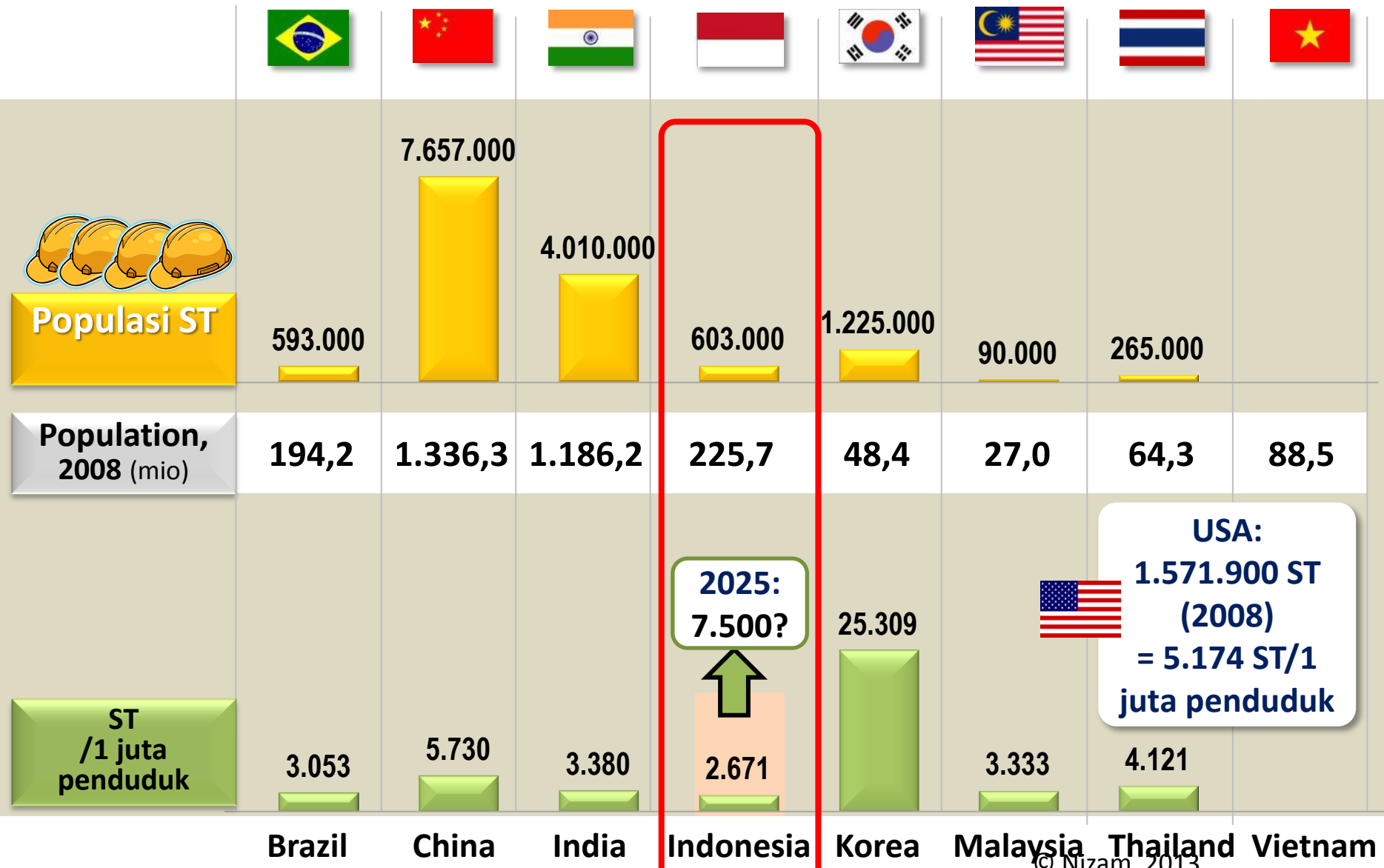
Medium rank coal (sub-bituminous)

ROM
AR Calorie 4100-5300 kcal/kg
TM < 30%

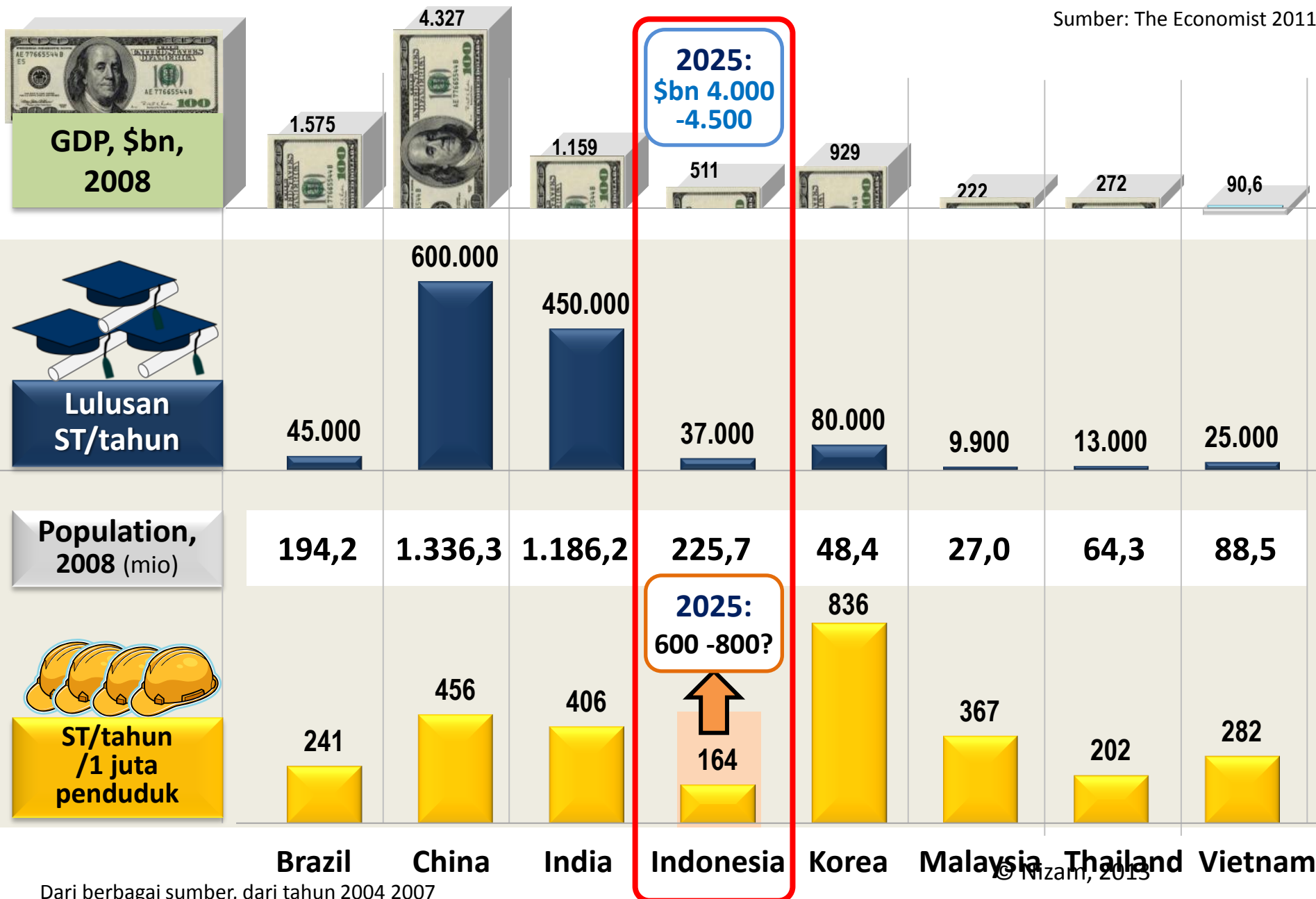
INOVASI NILAI TAMBAH

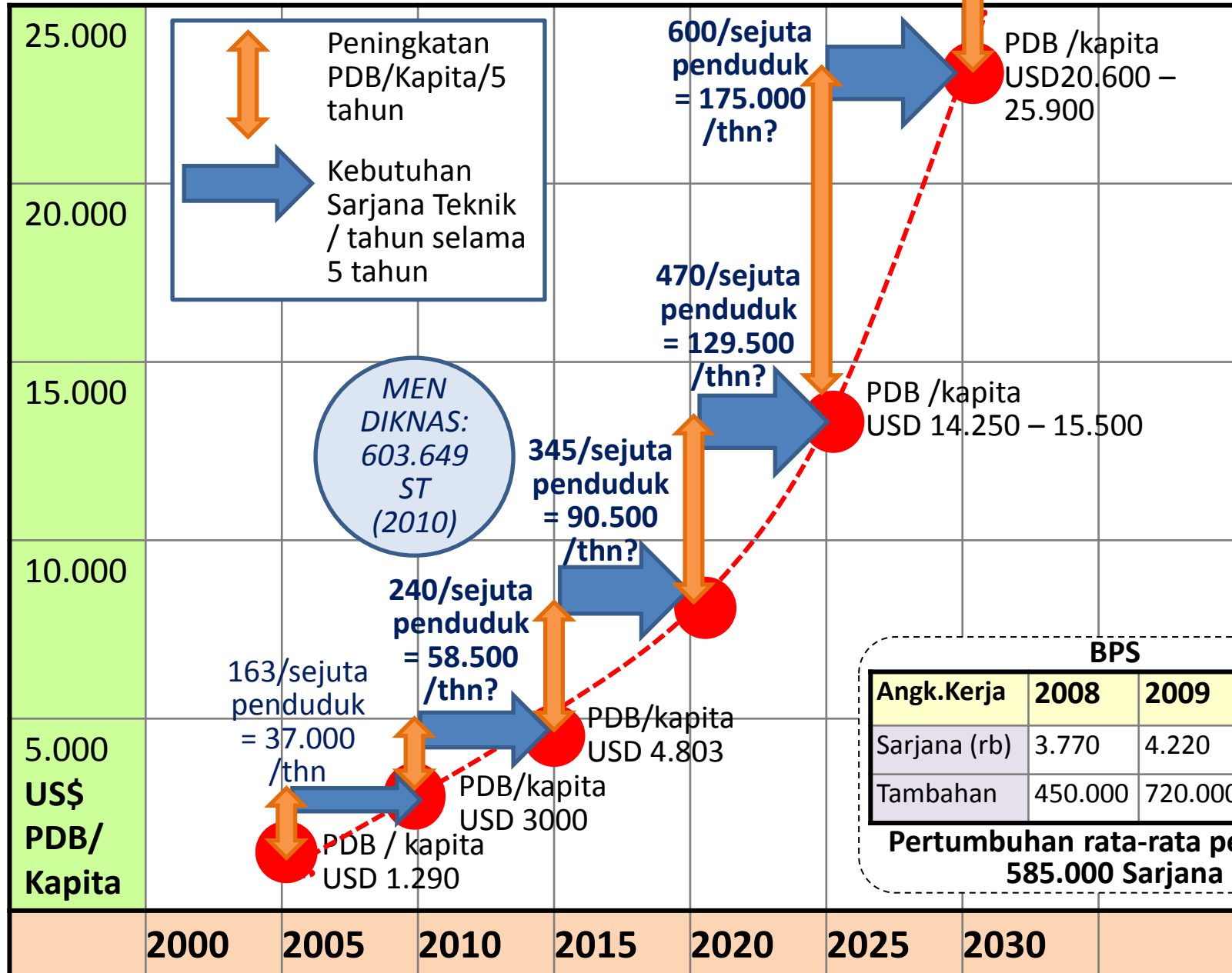
Menjadi Ideal Finished Product
AR Calorie >5300 kcal/kg
TM < 15%

Menjadi Ideal Finished Product
AR Calorie >6000 kcal/kg
TM < 10%

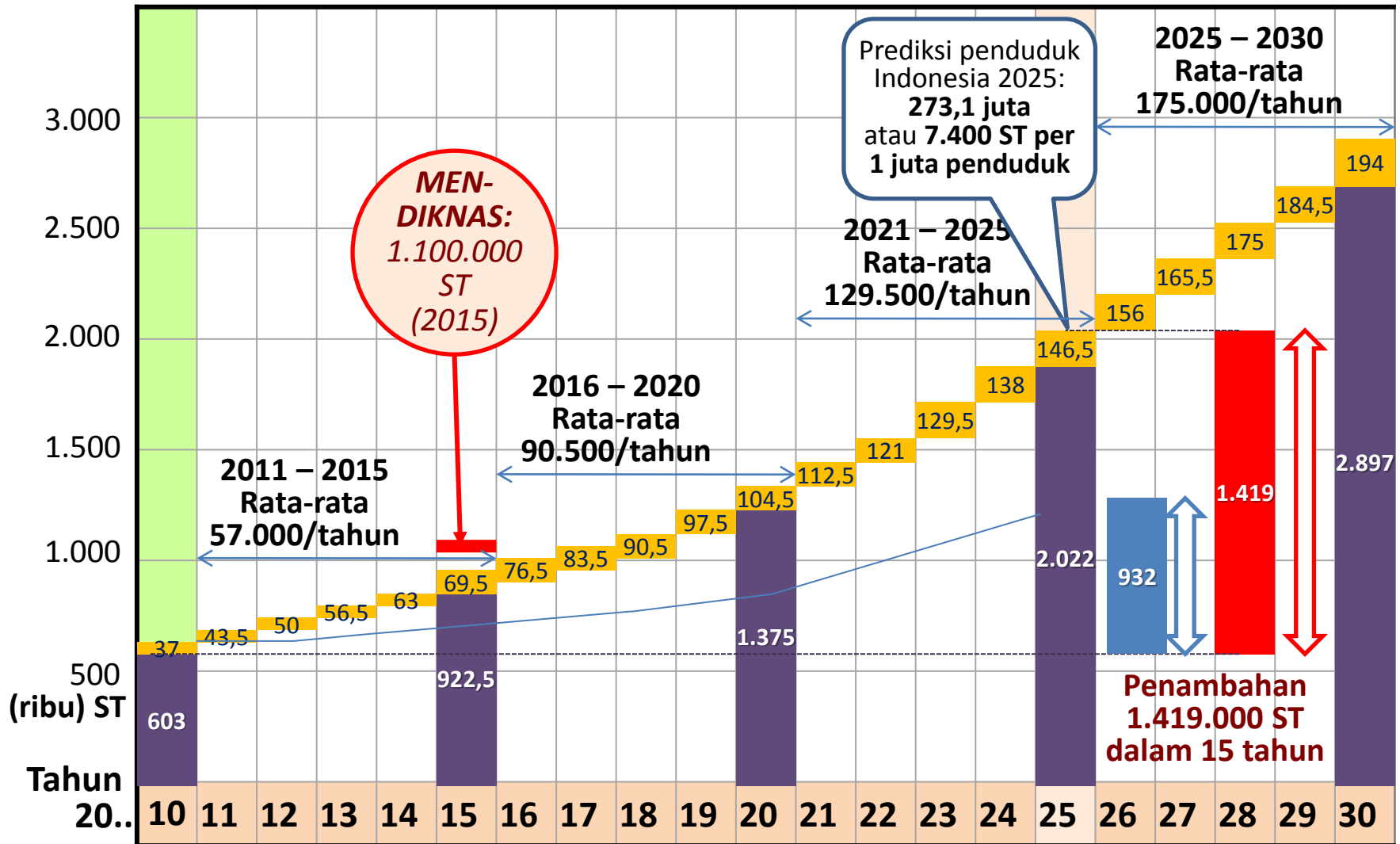


Sumber: The Economist 2011



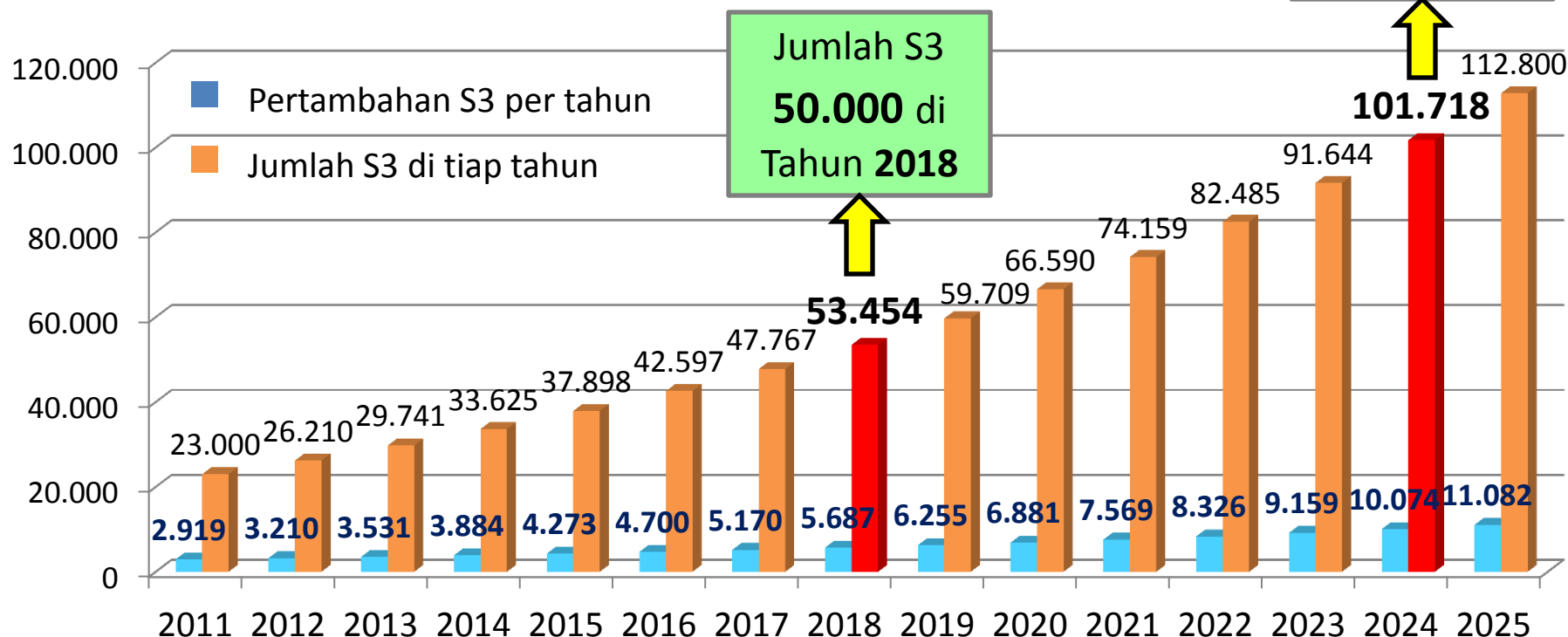


Jumlah kebutuhan tambahan ST per tahun dan jumlah populasi ST per 5 tahun



© Nizam, 2013
Penambahan 53% terhadap kenaikan pertumbuhan biasa

S3 Bila Pertambahan 10% Tiap Tahun



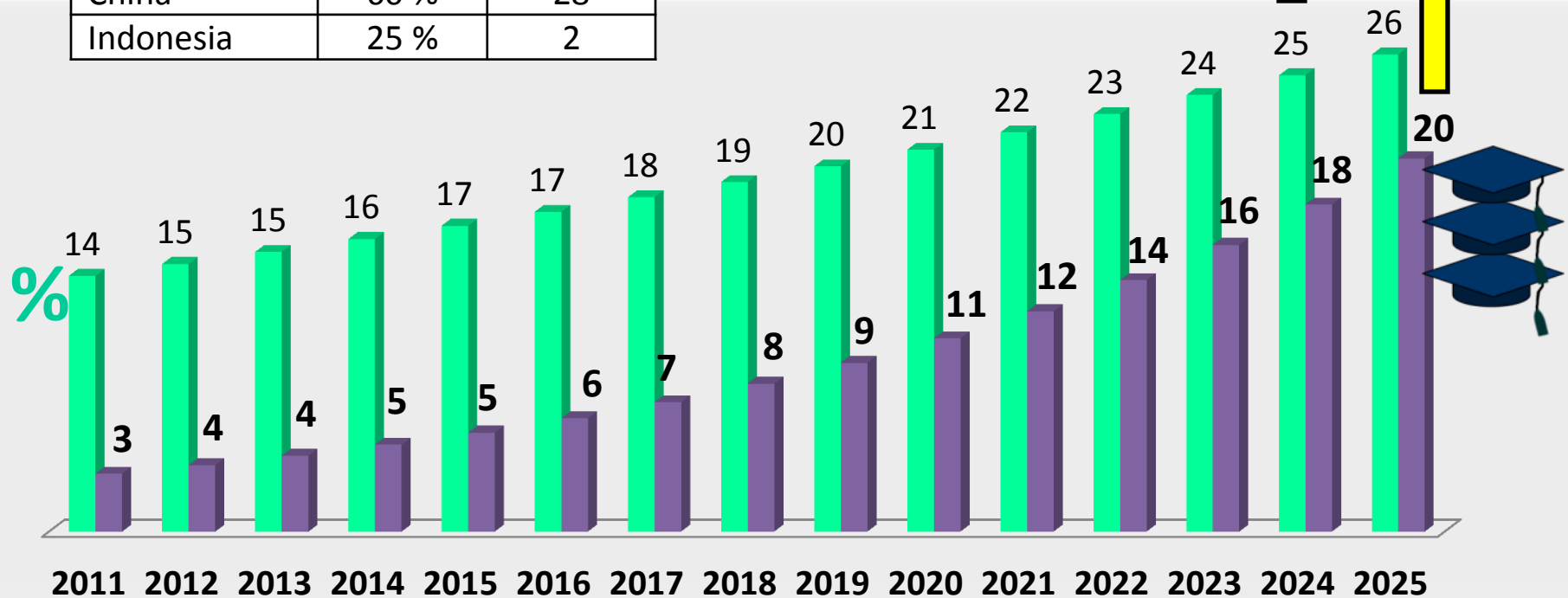
NEGARA	JUMLAH S3 Thn 2011	POPULASI	S3 /1juta penduduk
INDONESIA	23.000	234.000.000	98
MALAYSIA	14.000	27.500.000	509
INDIA	1.690.000	1.198.000.000	1.410
JERMAN	328.000	82.200.000	3.990
PERANCIS	320.000	62.300.000	5.136
JEPANG	819.000	127.200.000	6.438
USA	3.100.000	314.700.000	9.850

Dengan pertambahan 10%, tahun **2024** menjadi 500 /1 juta penduduk

Sama dengan Malaysia sekarang!

S3 TSP Bila Pertambahan 15%/ Tahun

Perbandingan Negara (2008)	Perbandingan S3 TSP/ S3 Total	Penambahan S3 TSP/ 1 juta pop
Australia	39 %	95
USA	36 %	65
Korea Selatan	33 %	60
Jepang	40 %	45
China	60 %	28
Indonesia	25 %	2



3.220 S3-TSP

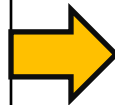
■ % S3 TSP(15%)/ S3 Total (10%)
■ S3 TSP per 1 juta penduduk

22.587 S3-TSP

Usulan Penelitian S3 mendukung MP3EI

KONDISI yang DIHADAPI

Obyek Penelitian berdasar yang disukai peneliti
Pemda menginginkan potensinya dapat diteliti
Hasil penelitian belum tentu dibutuhkan industri
Hasil penelitian belum tentu menghasilkan paten
Hasil penelitian belum tentu memenuhi kelayakan ekonomi
Hasil penelitian belum terkait Center of Excellence
Pengembangan hasil penelitian skala lab terkendala
Proses penelitian dilakukan sendiri-sendiri
Industri harus selalu mengembangkan keunggulan



PENDEKATAN Inter Disiplin Hasilkan S3 & PATEN Berdasar Kebutuhan Industri & Ekonomi



Usulan Center/Cluster Tematik IPTEK



Dibangun di berbagai Perguruan Tinggi yang berdekatan dengan Industri dengan koordinasi Ristek

CLUSTER of EXCELENCE



CLUSTER of EXCELENCE



CLUSTER of EXCELENCE



CLUSTER of EXCELENCE

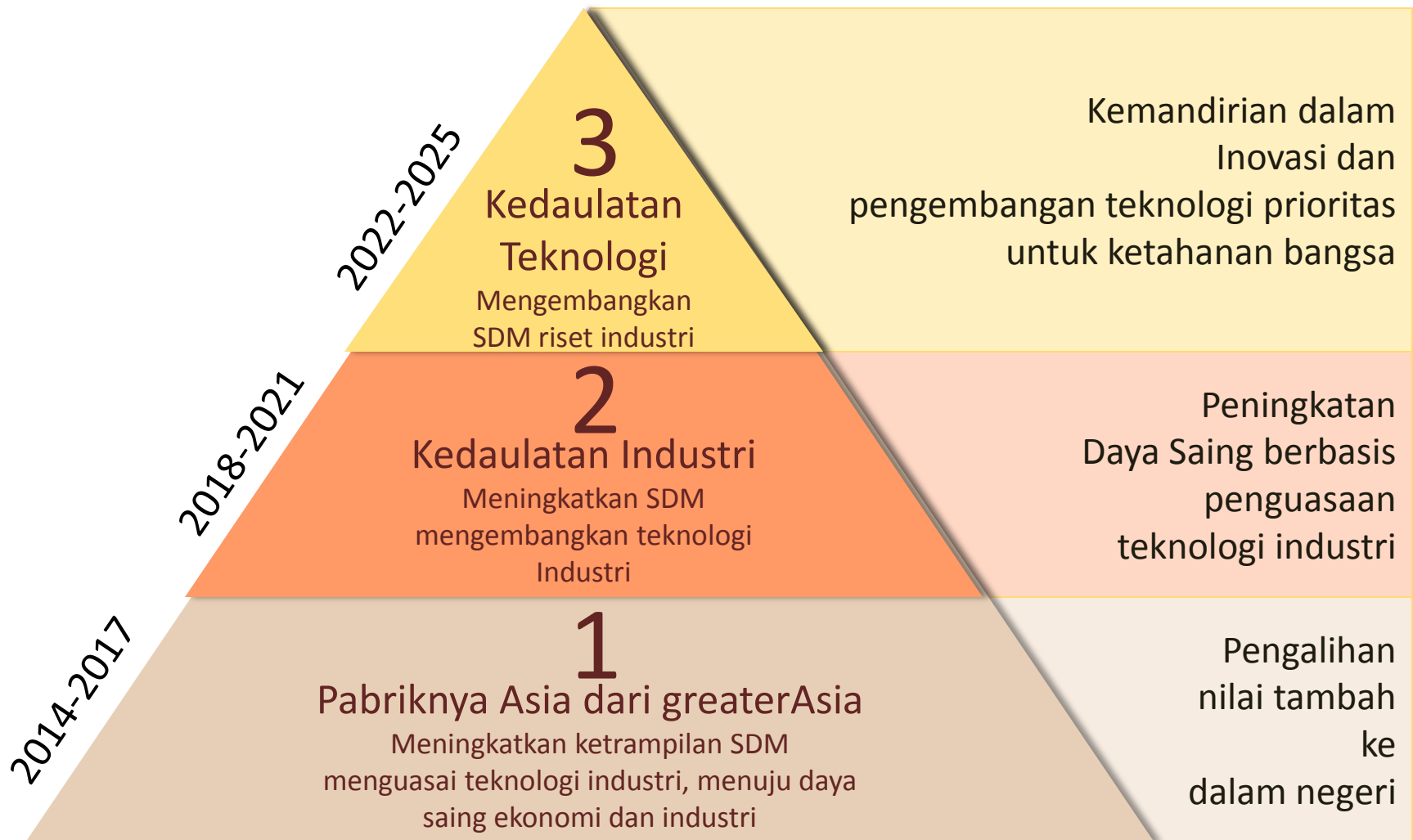


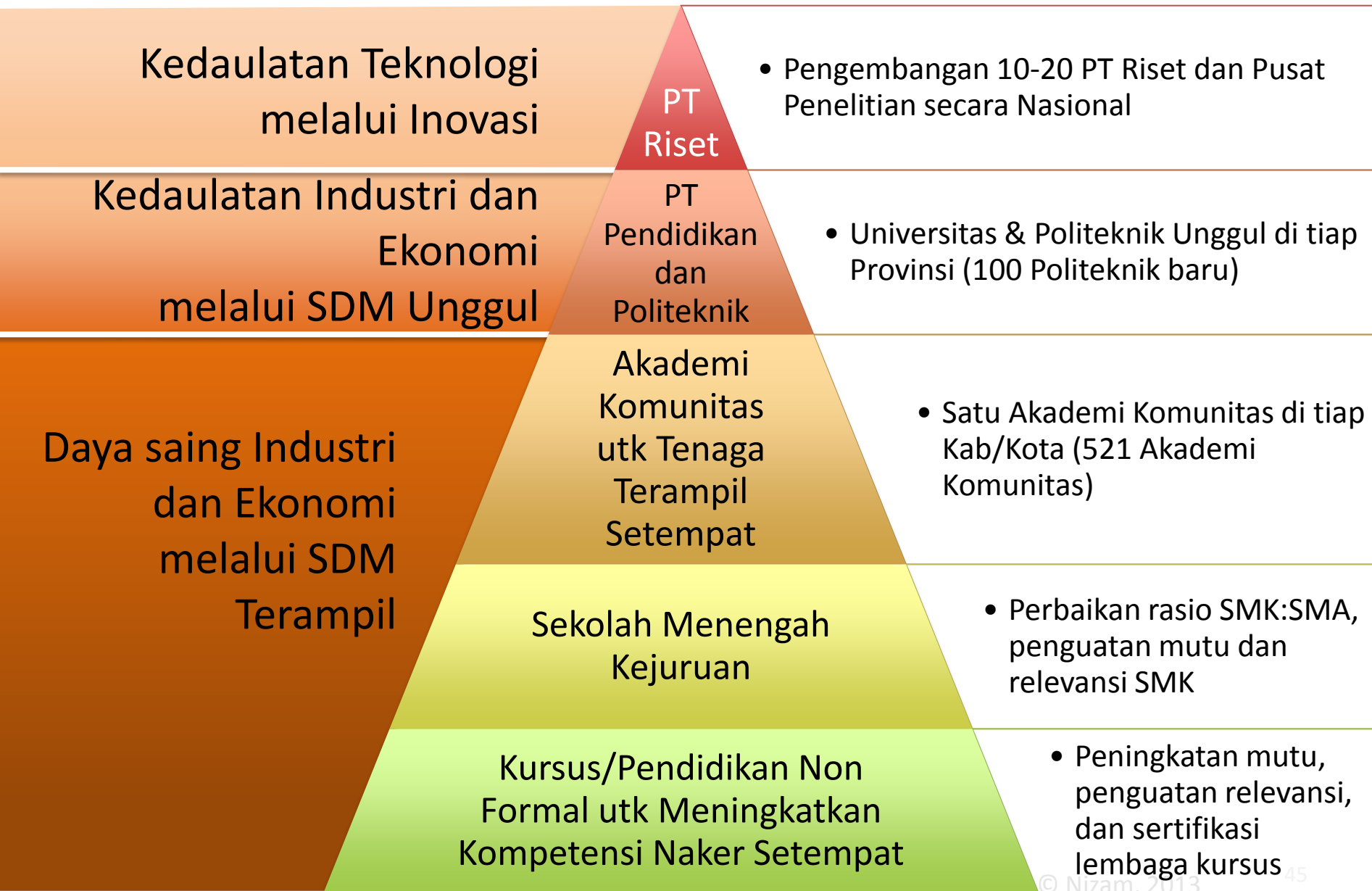
CLUSTER of EXCELENCE

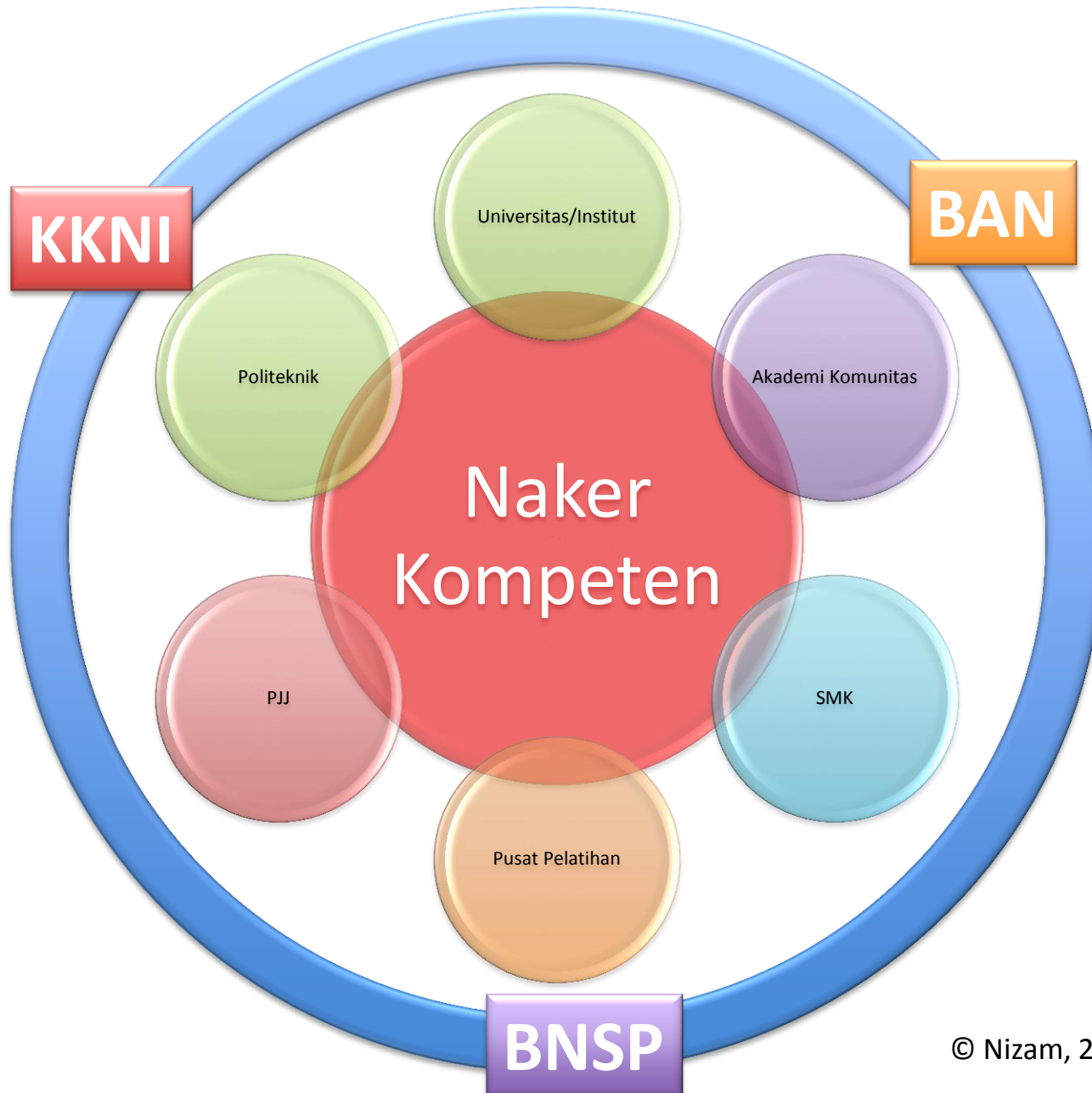


Perlu Strategi Baru

Percepatan Kemandirian Teknologi







- Indonesia memasuki titik penting secara demografis maupun pertumbuhan ekonomi di tengah bangkitnya ASIA
- Penyiapan generasi emas menjadi kunci kemajuan bangsa
- Perluasan akses pendidikan (tinggi) untuk pengembangan SDM di daerah
- Perluasan melalui:
 - Afirmasi
 - Pengembangan Akademi Komunitas di setiap Kabupaten Kota (Pemerintah bersama Pemda & DUDI)
- Peningkatan mutu dan relevansi:
 - Penguatan politeknik
 - Riset perguruan tinggi yang menghirir
- Pengembangan klaster unggulan (cluster of Excellence)
- Dukungan Pemda untuk Beasiswa D3/D4/S1/S2/S3 yang relevan di pusat2 Unggulan
- Sinergi Riset dan Pengembangan untuk Penguatan nilai tambah sumber daya alam di daerah

REGIONAL PEOPLE CONNECTIVITY

ASEAN: One Community in 2015

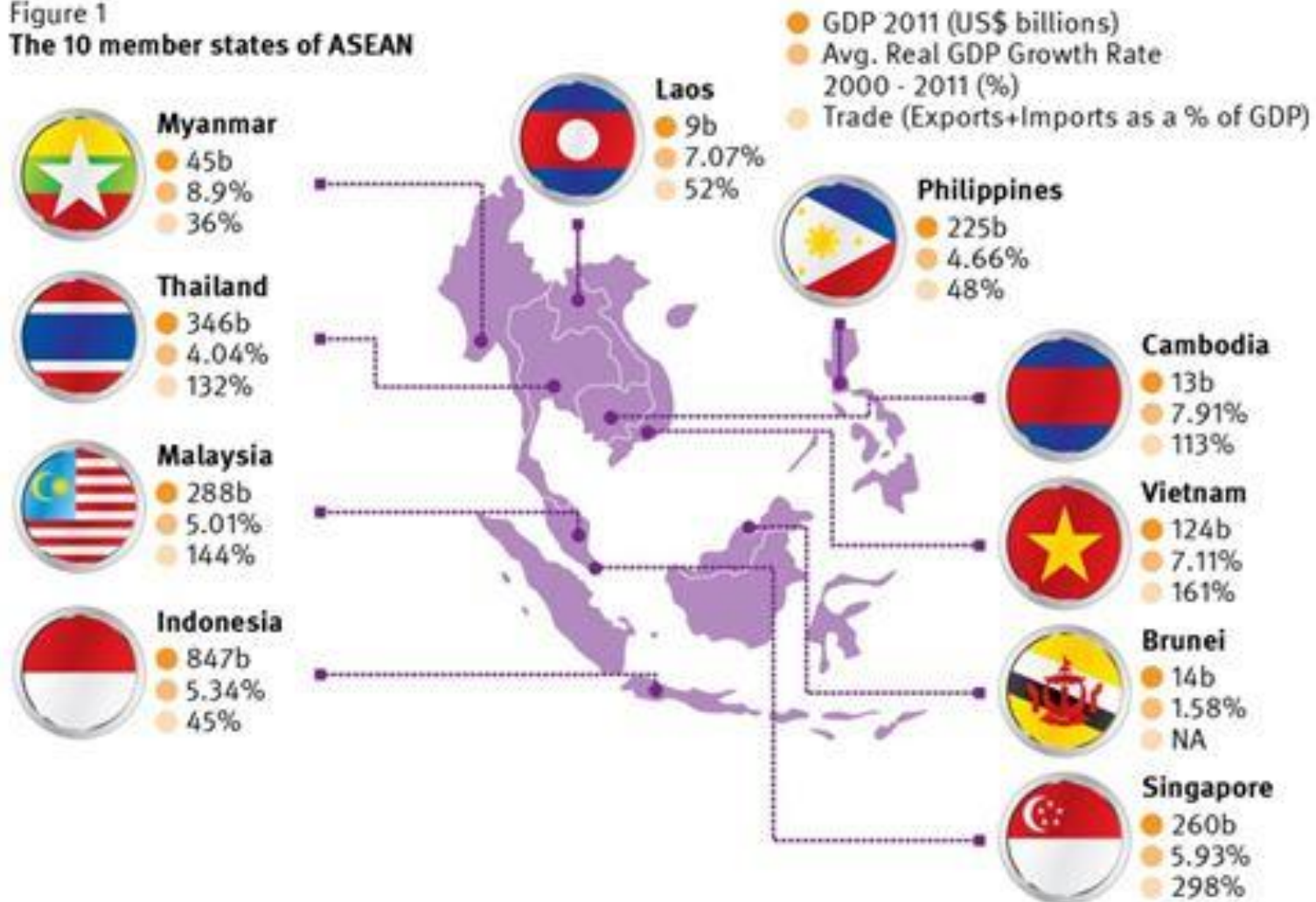


The Growing Economy of APAC



ASEAN Contribution

Figure 1
The 10 member states of ASEAN



Free Flow of People

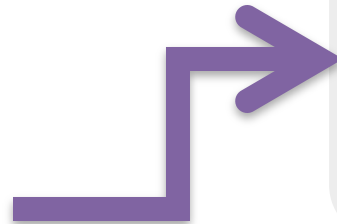


Free flow of "knowledge"

Low job opportunity causing human capital flight from the east to the west



transform into



Regional brain circulation, graduates from one country can fluidly move to other country and vice versa

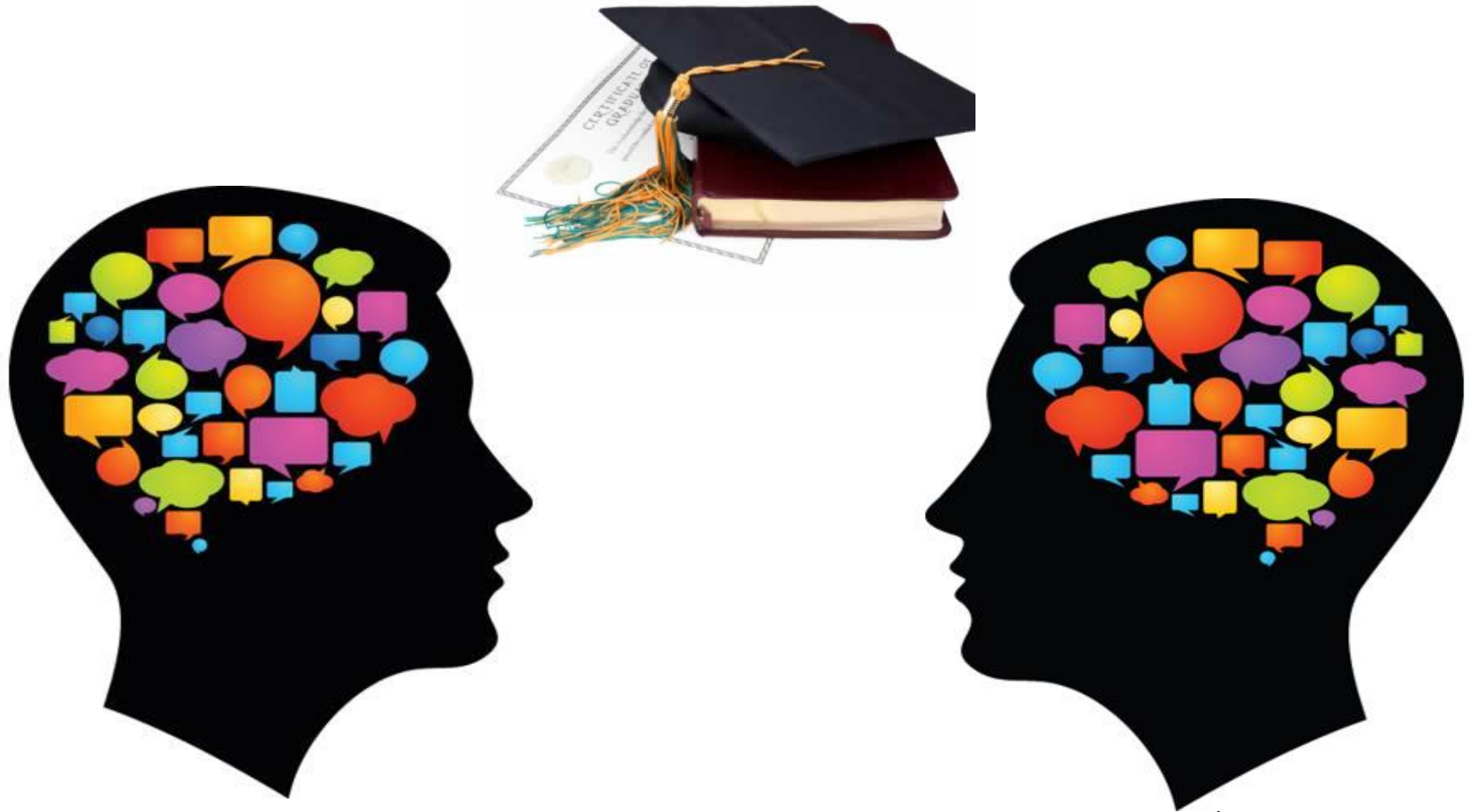
Qualifications of workforce:-

Comparable?

Compatible ?



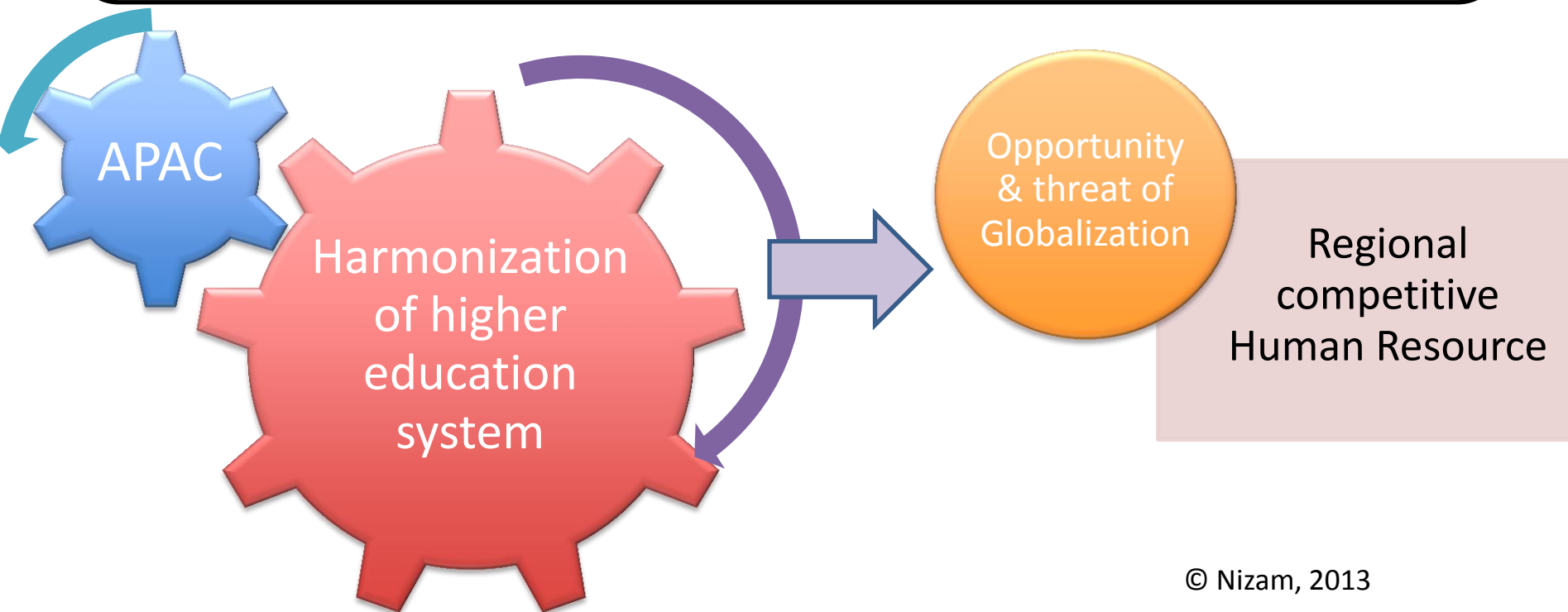
**To facilitate mobility
needs comparability and
compatibility of credentials**





Effective brain circulation needs harmonization of education system, especially at higher education level

Mutual understanding and recognition are the foundation of quality people mobility



Harmonization in other regions

lessons learned



Europe (1999)

European Higher Education Area (EHEA) through the Bologna Process - 2010

Central and Latin America (1997)

Apply a Bologna Process by 2015 with the cooperation with EU

West Africa (2004)

African Higher Education Area (AHEA)

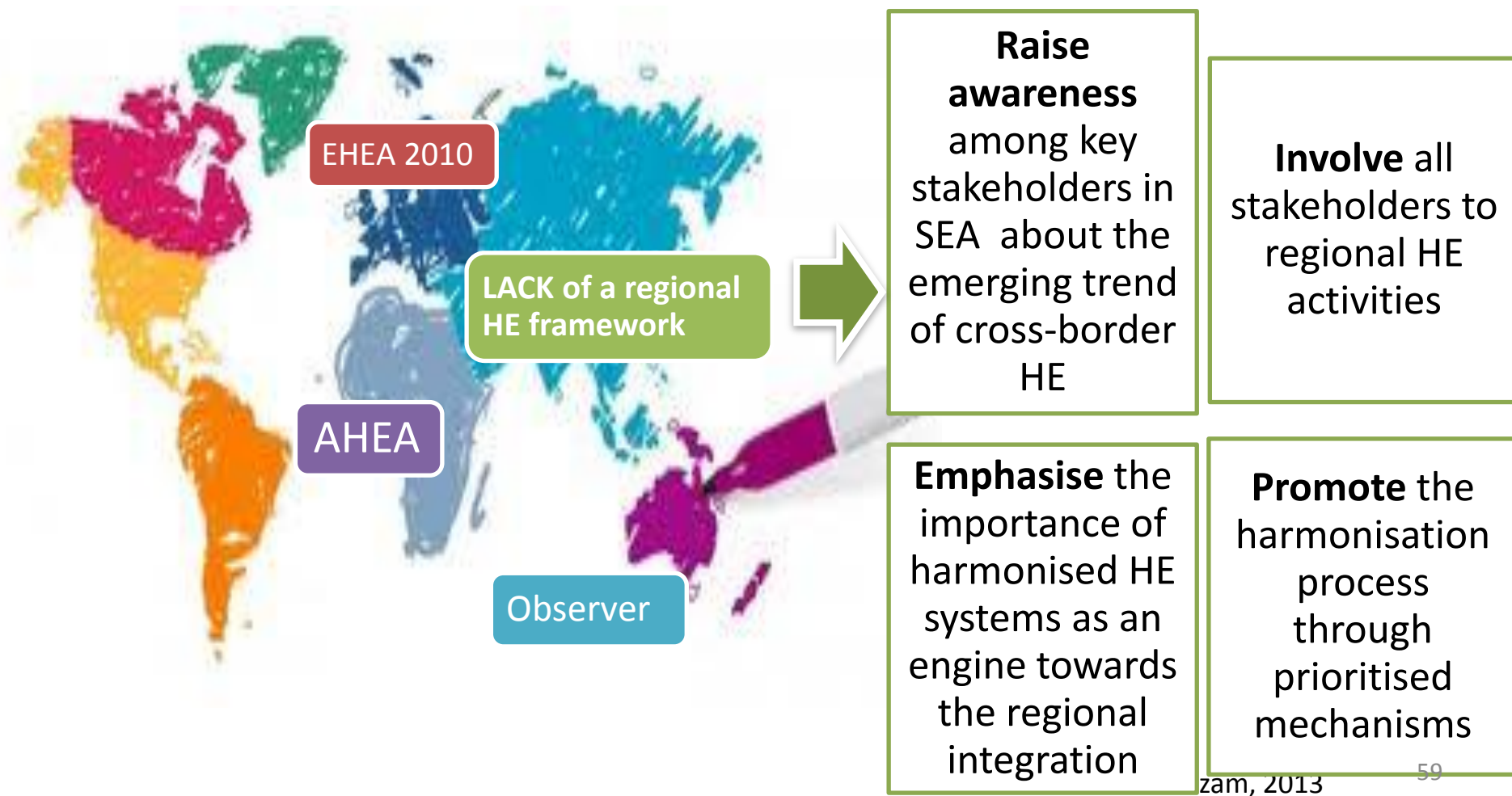
Arab States (1998)

Exploring the possibility to include HE in GATS, Establishing the Arab Network for Quality Assurance in Higher Education (ANQAHE) in June, 2007

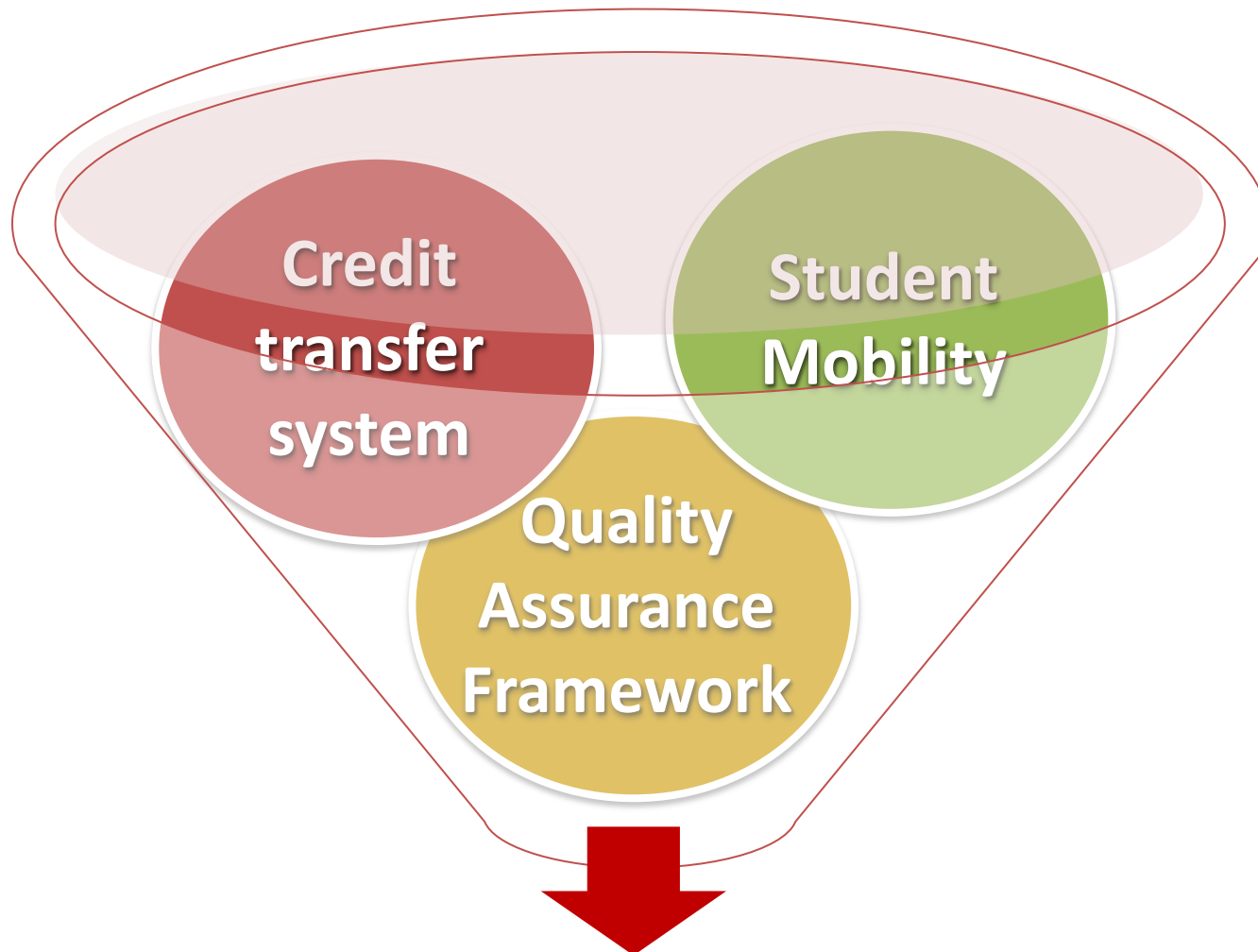
Southeast Asia (2007)

SEAMEO RIHED proposed
The Structured Framework for Regional Integration in Higher Education in Southeast Asia:
the Road towards a Common Space

Harmonization Steps

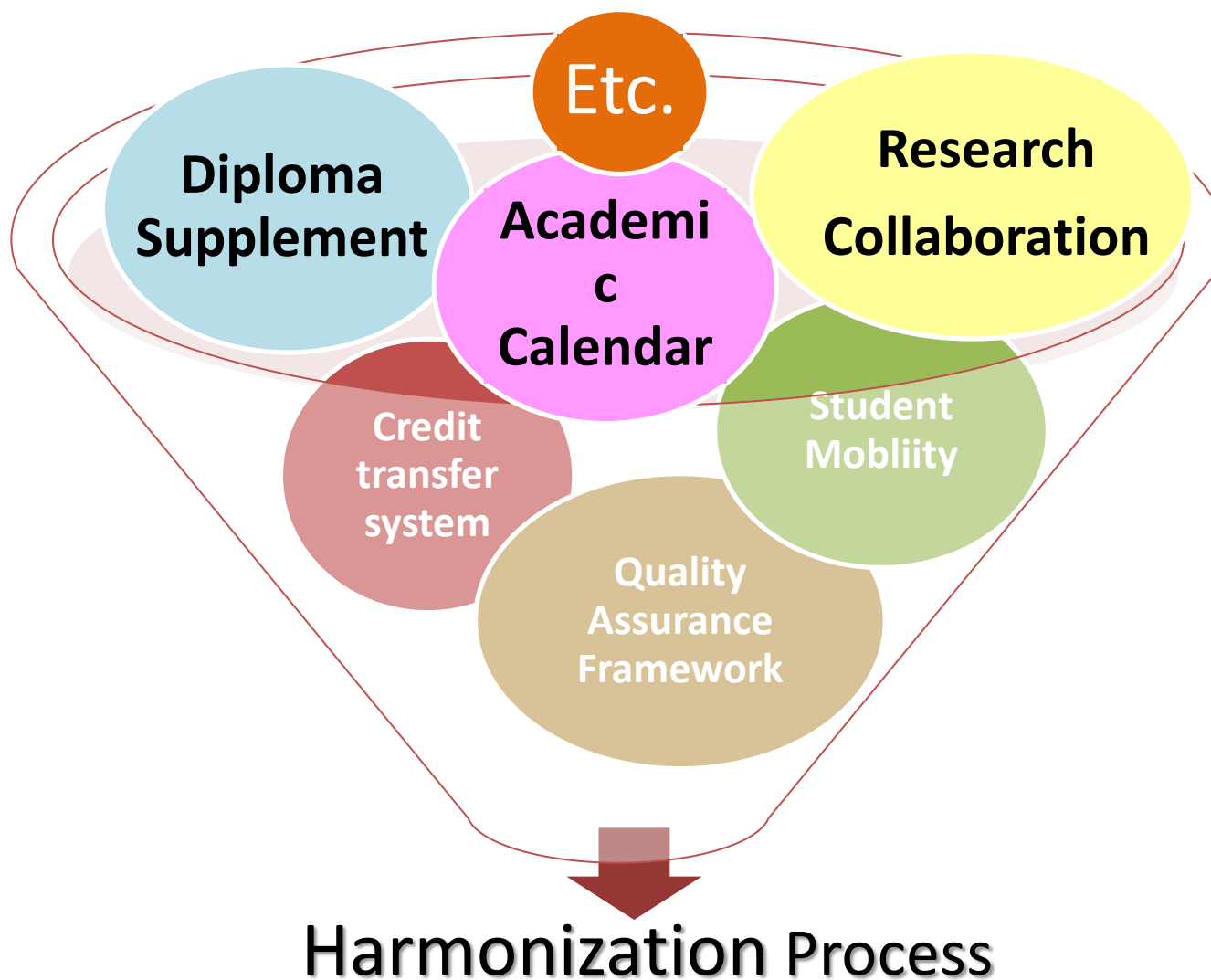


Three main interconnected factors :



Harmonization Process

Other important factors



Cross-Border Higher Education Trends around the Globe

OECD- 56% increase in the number of foreign students from 2000-2006 + growing mobility of int. training and research collaboration b/w HEIs



EUROPE- Erasmus Programme evolved into the Bologna Process, facilitating the mobility of students and faculty

Top six countries hosting 62% of the world's mobility students in 2007

US- 21.4% of foreign enrolments

UK-12.6%

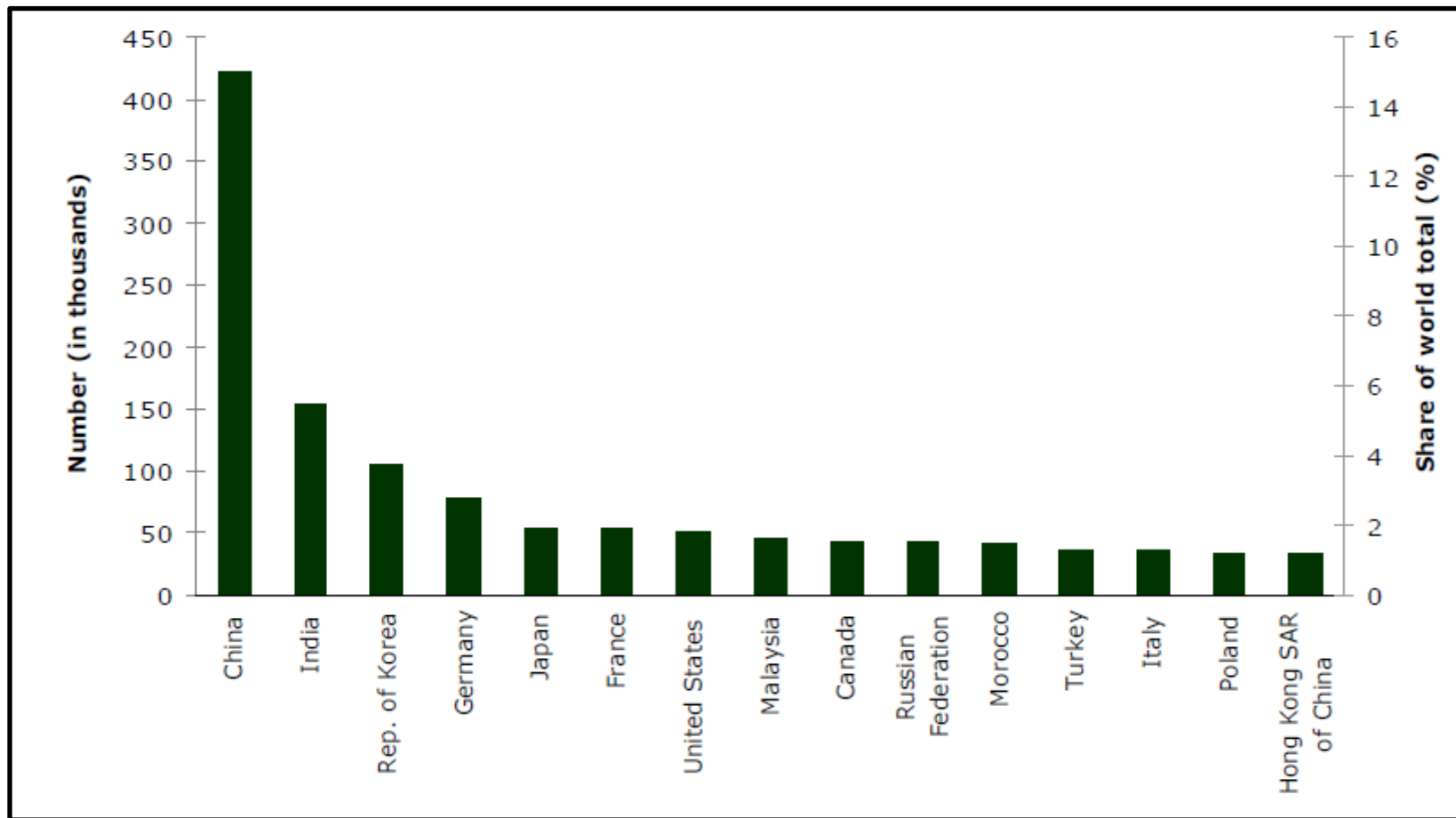
France- 8.8%

Australia- 7.6%

Germany- 7.4%

Japan- 4.5%

Top 15 Sending Countries of Foreign Students Abroad 2007



Source: UNESCO Institute for Statistics, 2009

ASIA as the Largest Exporter of Students

- **China, India and South Korea** being the origin countries from where students travel abroad for studies



- **North America, Europe and Australia** being a preferred destinations



Student mobility

- Japan

- Total Students:
3,878,000 (2010)
- Most recent total for
international student
enrollment:
132,720 (2010)

Undergraduate: 54,297

Graduate/PG: 30,790

- Top 10 sending places of
origin (in 2005):
 - 1. China 79,082 (59.6%)
 - 2. South Korea 19,605 (14.8%)
 - 3. Taiwan 5,332 (4.0%)
 - 4. Vietnam 3,199 (2.4%)
 - 5. Malaysia 2,395 (1.8%)
 - 6. Thailand 2,360 (1.8%)
 - 7. United States 2,230 (1.7%)
 - 8. Indonesia 1,996 (1.5%)
 - 9. Bangladesh 1,683 (1.3%)
 - 10. Nepal 1,682 (1.3%)



Student mobility

- Australia
 - Total HE students:
995,440
 - International students :
223,508
 - Undergraduate: **120,542**
 - Graduate/post-graduate:
87,553
 - Non-degree (all levels):
15,413
- Top 10 Sending Places of Origin
 - 1. China 25.3%
 - 2. India 11.7%
 - 3. Malaysia 8.2%
 - 4. Hong Kong 5.6%
 - 5. Indonesia 4.4%
 - 6. United States 4.2%
 - 7. Singapore 3.8%
 - 8. South Korea 2.8%
 - 9. Vietnam 2.3%
 - 10. Thailand 1.9%



Student mobility

- United Kingdom
 - Total Students:
 - 2,469,070 (2009)
 - Most recent total for international student enrollment:
 - 415,585 (2009)
 - Undergraduate:
 - 209,880
 - Graduate/PG: 205,705
- Top 10 sending places of origin (in 2009):
 - 1. China 50,460 12.1%
 - 2. India 36,105 8.7%
 - 3. United States 21,815 5.2%
 - 4. Germany 17,980 4.3%
 - 5. France 17,660 4.2%
 - 6. Ireland 15,850 3.8%
 - 7. Nigeria 15,105 3.6%
 - 8. Greece 13,380 3.2%
 - 9. Malaysia 13,355 3.2%
 - 10. Pakistan 10,190 2.5%



Student mobility

- United States
 - Total Students:
 - 17,958,000 (2008)
 - Most recent total for international student enrollment:
623,805 (2008)
- Top 10 sending places of origin (in 2009):
 - 1. India 15.2%
 - 2. China, PRC 13.0%
 - 3. Korea, Rep. of (South) 11.1%
 - 4. Japan 5.4%
 - 5. Canada 4.7%
 - 6. Taiwan 4.6%
 - 7. Mexico 2.4%
 - 8. Turkey 1.9%
 - 9. Saudi Arabia 1.6%
 - 10. Thailand 1.4%



Student mobility

- Malaysia
 - Total Students: 697,000 (2006)
 - Most recent total for international student enrollment:
 - 40,029 (2005)
 - 24,404 (2006)
- Top 10 sending places of origin (in 2005):
 - 1. China 9,146 (22.8%)
 - 2. Indonesia 6,483 (16.1%)
 - 3. Bangladesh 5,624 (14.0%)
 - 4. Pakistan 1,961 (4.8%)
 - 5. Yemen 1,278 (3.1%)
 - 6. India 1,262 (3.1%)
 - 7. Iran 898 (2.2%)
 - 8. Thailand 731 (1.8%)
 - 9. Oman 686 (1.7%)
 - 10. Maldives 658 (1.6%)



Student mobility

- Thailand
 - Total Students:
 - 2,504,000(2006)
 - Most recent total for international student enrollment:
4,092 (2006)
- Top 10 sending places of origin (in 2003):
 - 1. China 28%
 - 2. Myanmar 9%
 - 3. India 8%
 - 4. Vietnam 7%
 - 5. Laos 5%
 - 6. United States 5%
 - 7. Japan 4%
 - 8. Taiwan 4%
 - 9. Cambodia 3%
 - 10. Bangladesh 3%



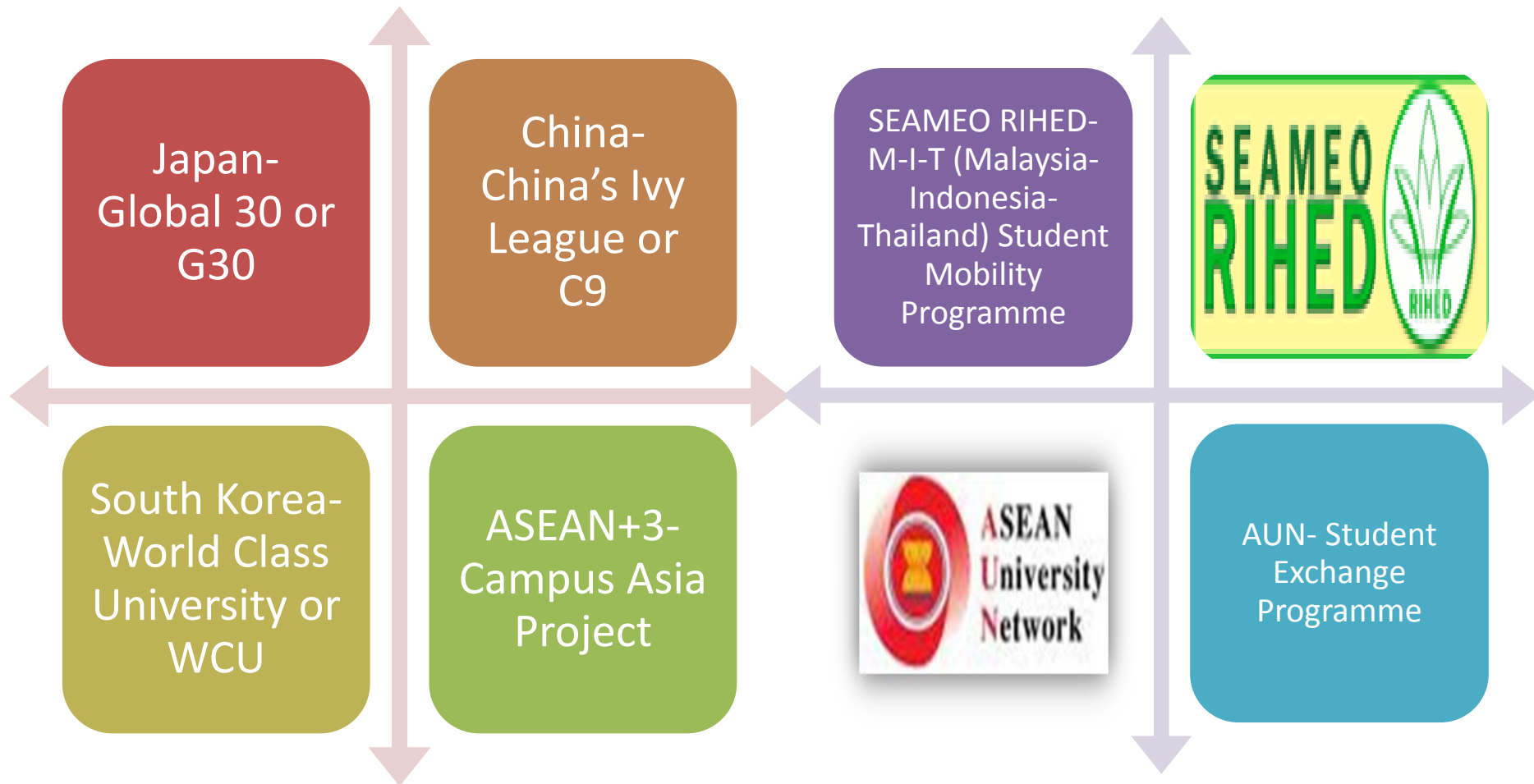
No. of Overseas Students in Indonesian Universities

No.	Negara	2007		2008	
		PTN	PTS	PTN	PTS
1	Malaysia	2,502	320	2,026	201
2	Timor Leste	51	1,629	160	2,097
3	China	23	154	13	107
4	Korea	29	10	97	72
5	Jepang	63	15	91	21
6	Jerman	71	86	63	8
7	Australia	37	12	48	2
8	Thailand	2	27	4	19
9	Turki	43	29	1	24
10	Vietnam	14	8	11	16
11	Lain-Lain (80 Negara)	87	98	168	139
	SUB TOTAL	2,922	2,388	2,682	2,706
	TOTAL	5,310		5,388	

Some Regional Initiative toward HE Harmonization

	Student Mobility	Regional Credit Transfer System	QA Framework
ASEAN	M-I-T (Malaysia-Indonesia-Thailand) Student Mobility Programme	SEA-CTS Model (under development by SEAMEO member countries)	ASEAN Quality Assurance Framework (under development by AQAN and SEAMEO RIHED)
	AUN student exchange programmes	ACTS (ASEAN Credit Transfer System)	AUN-QA
		UCTS (UMAP Credit Transfer System)	
Japan China Korea Plus Three Countries	Global 30	-	HEI-based
	C9	-	HEI-based
	WCU	-	HEI-based
	Campus Asia Project	Now at their own discretion, but exploring the common CTS	Now at their own discretion, but exploring the quality assurance exchange

Initiative Programs for International Mobility in SEA/EA



The Evolution of Student and Staff Mobility across SEA

"Pilot" project on the regional student exchange with credits being transferred called the **M-I-T student mobility programme** has been perceived in 2009 and being launched in 2010



Agriculture

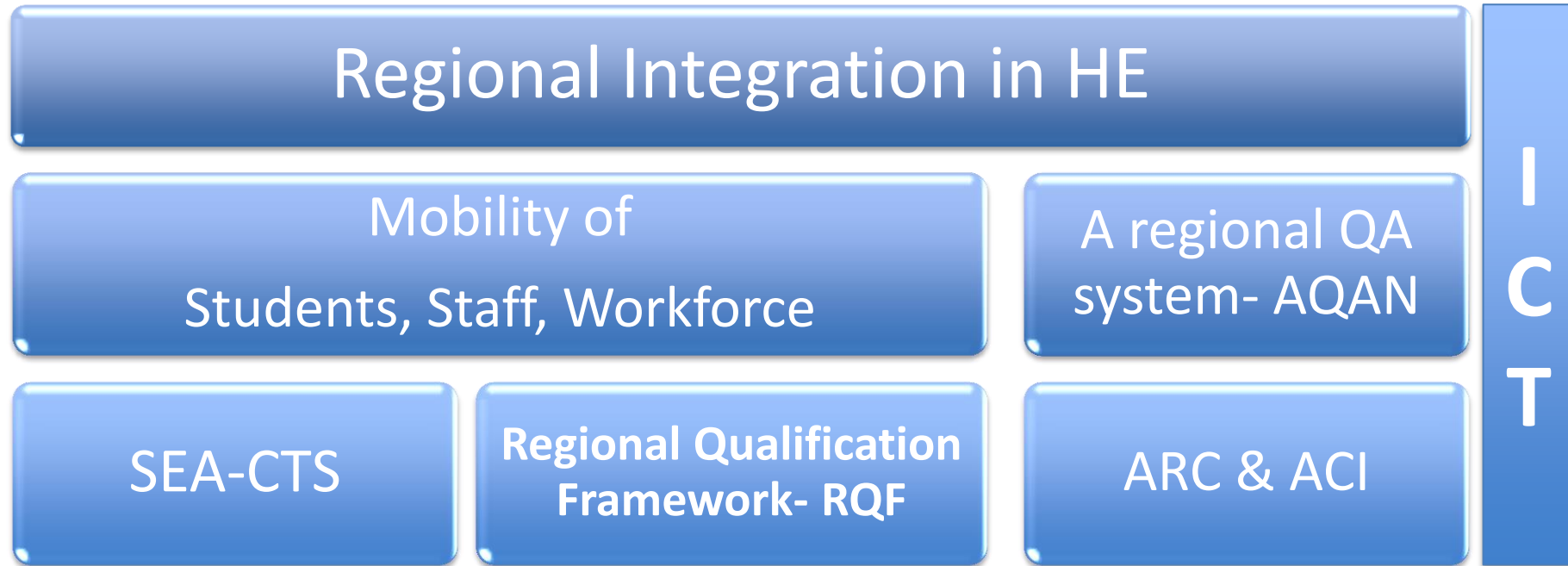
Hospitality
& Tourism

Language/
Culture

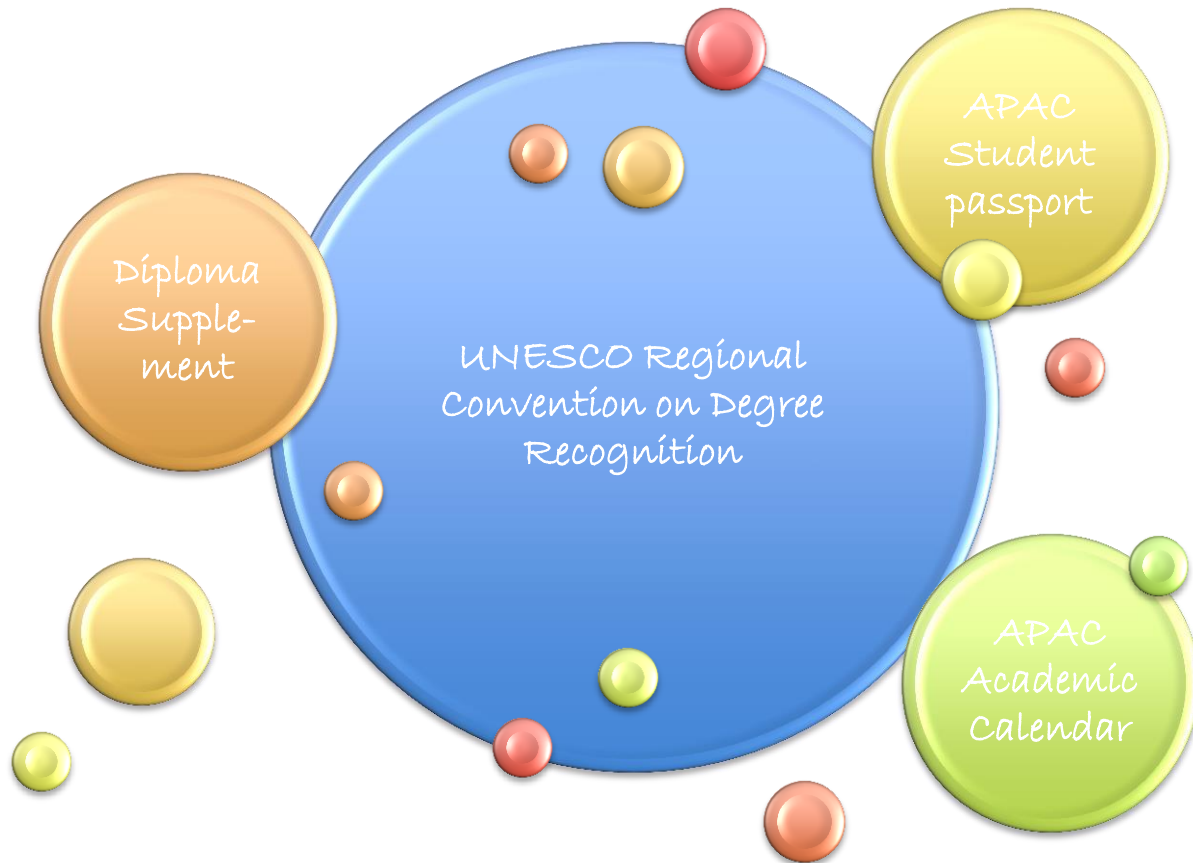
Food
Science and
Technology

International
Business

Regional HE Architecture towards Regional Integration



Regional HE Architecture towards Regional Integration



The Way Forward

People mobility should be framed into brain circulation that will mutually benefit the region to be more competitive and prosper

To facilitate quality people mobility, requires harmonization of qualification framework and (higher) education system

Quality assurance (accreditation) system, mutual recognition, and student mobility programs should be fostered

Thank You
Terima Kasih