



MINISTRY OF FINANCE
REPUBLIC OF INDONESIA

How Should the Government Adjust to Accommodate the Era of Participative Economy

Ministry of Finance of Republic of Indonesia

Airlangga International Conference on Economic and Business 2018

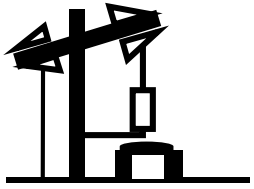
Surabaya, 24 October 2018



GLOBAL CHALLENGE

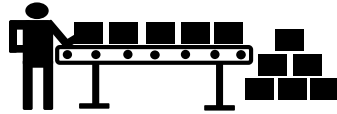
THE WORLD ENTERS A NEW ERA OF DIGITAL TECHNOLOGY

Triggered by the Rapid Development of ICT



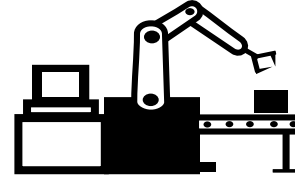
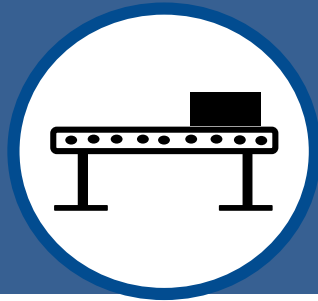
INDUSTRY 1.0

Use of mechanical
Production Plants
using water and
steam



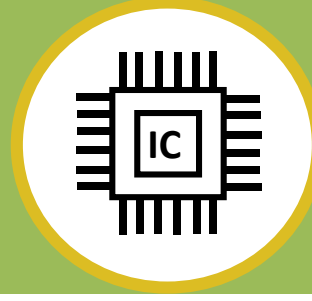
INDUSTRY 2.0

Use of Mass
Production,
Using Electrical
Energy



INDUSTRY 3.0

Use of electronics
and IT to
automate
production



INDUSTRY 4.0

*Artificial
Intelligence,
IoT, Cloud
Computing,
Network,
Cyber-Physical
System*



Do technologies put our live at risk?



Inside the Adidas Factory that Uses Robots to Build Running Shoes

Source: <https://www.technologyreview.com/the-download/609057/inside-the-adidas-factory-that-uses-robots-to-build-running-shoes/>



47% of Jobs Will Disappear in the next 25 Years, According to Oxford University

McKinsey: Automation will leave 800 million people jobless



Employability inequality and Opportunity in America

**What jobs will still be around in 20 years?
Read this to prepare your future**



Five Million Jobs by 2020: the Real Challenge of the Fourth Industrial Revolution



Poorer workers hardest hit by strong arm of robotics

Report finds the less affluent are more at risk of losing out to automation



AI and robots could threaten your career within 5 years

Disruption on the conventional business

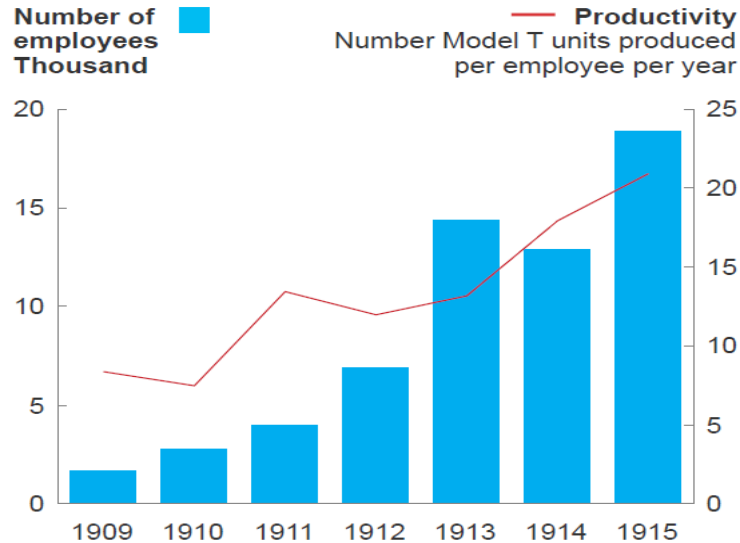


Source: McKinsey 2017

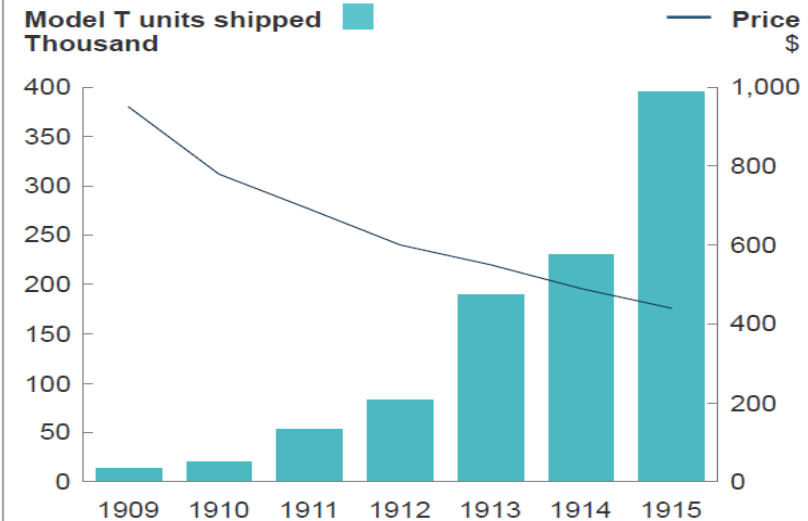
However, automation can stimulate employment by lowering the price of a good and unleashing latent demand

Example: Ford Model T assembly line

Assembly line improved productivity and number of employees...



... as prices fell and sales rose



Source: US Bureau of Labor Statistics; FDIC; David Hounshell, *From the American system to mass production 1800–1932: The development of manufacturing technology in the United States*, Baltimore, JHU Press, 1985; Bernard C. Beaudreau, *ICT: The industrial revolution that wasn't*, Lulu, May 2008; McKinsey Global Institute analysis

Future of Jobs

The Fourth Industrial Revolution, interacting with other socio-economic and demographic factors, creates a perfect storm of business model change in all industries, resulting in major disruptions to labour markets

2022 Skills Outlook

Growing

- 1 Analytical thinking and innovation
- 2 Active learning and learning strategies
- 3 Creativity, originality and initiative
- 4 Technology design and programming
- 5 Critical thinking and analysis
- 6 Complex problem-solving
- 7 Leadership and social influence
- 8 Emotional intelligence
- 9 Reasoning, problem-solving and ideation
- 10 Systems analysis and evaluation



Declining

- 1 Manual dexterity, endurance and precision
- 2 Memory, verbal, auditory and spatial abilities
- 3 Management of financial, material resources
- 4 Technology installation and maintenance
- 5 Reading, writing, math and active listening
- 6 Management of personnel
- 7 Quality control and safety awareness
- 8 Coordination and time management
- 9 Visual, auditory and speech abilities
- 10 Technology use, monitoring and control

New categories of jobs will emerge, partly or wholly displacing others. The skill sets required in both old and new occupations will change in most industries and transform how and where people work. It may also affect female and male workers differently and transform the dynamics of the industry gender gap


WEO 2018: The Future of Jobs Report

Quality of Education and Human Capital is Crucial to Face the Digitalization Era and the Future of Work


Future Work Skills 2020

While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.

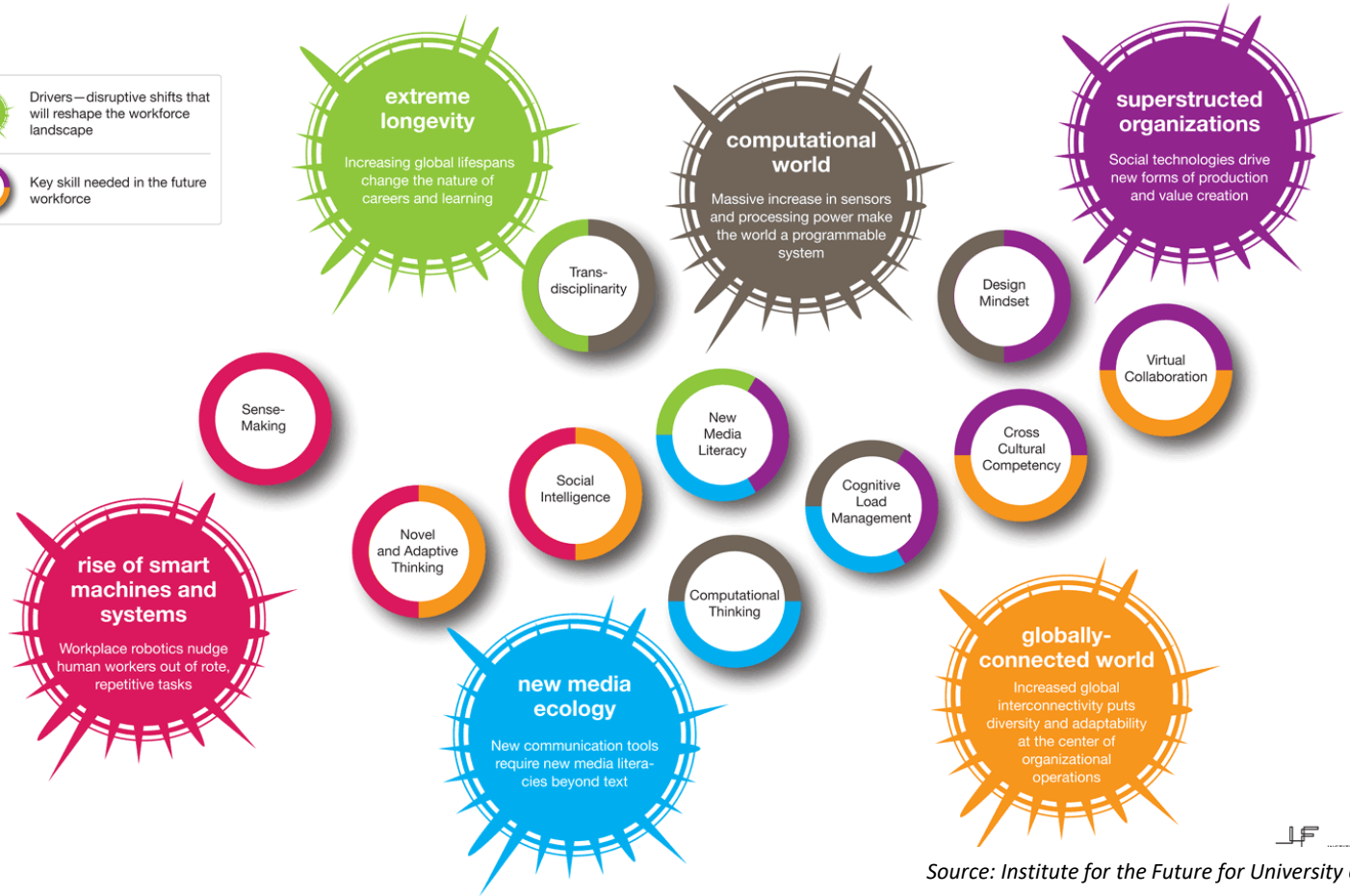
KEY



Drivers—disruptive shifts that will reshape the workforce landscape



Key skill needed in the future workforce



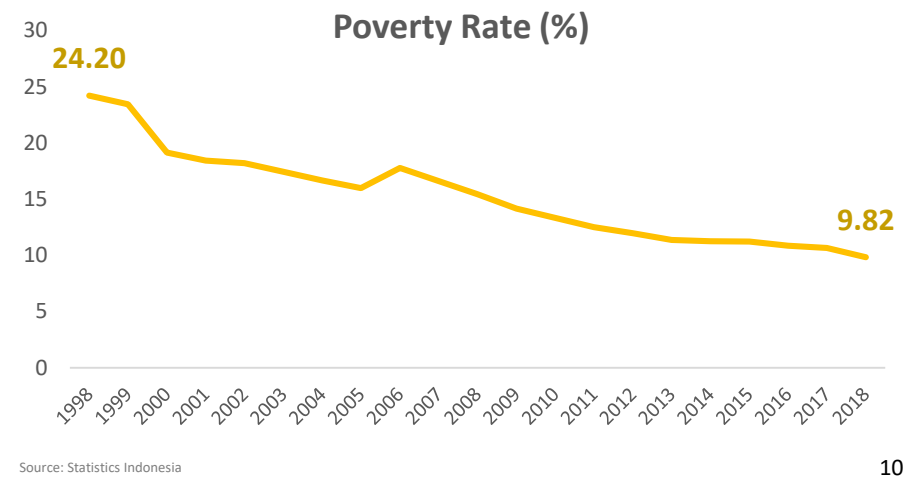
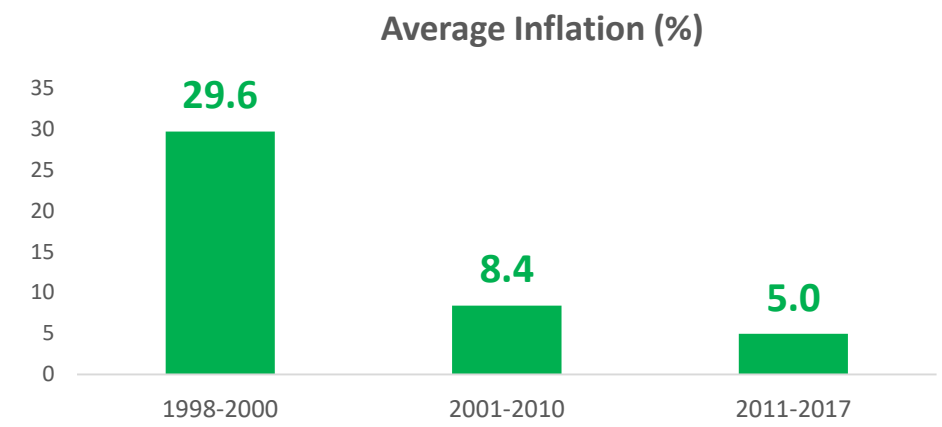
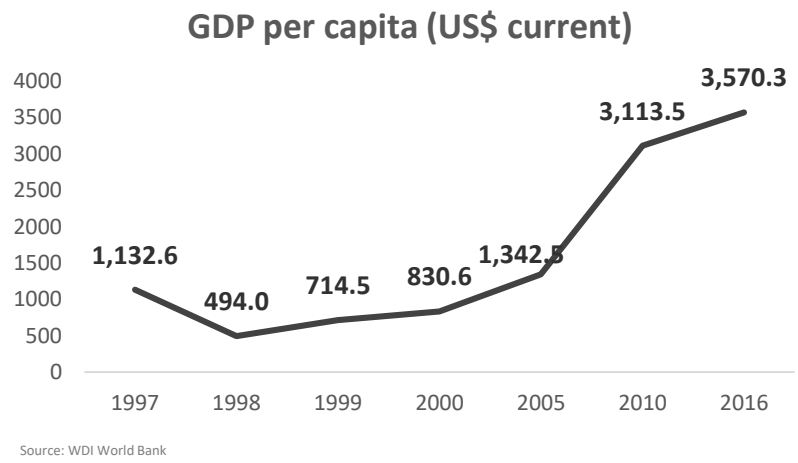
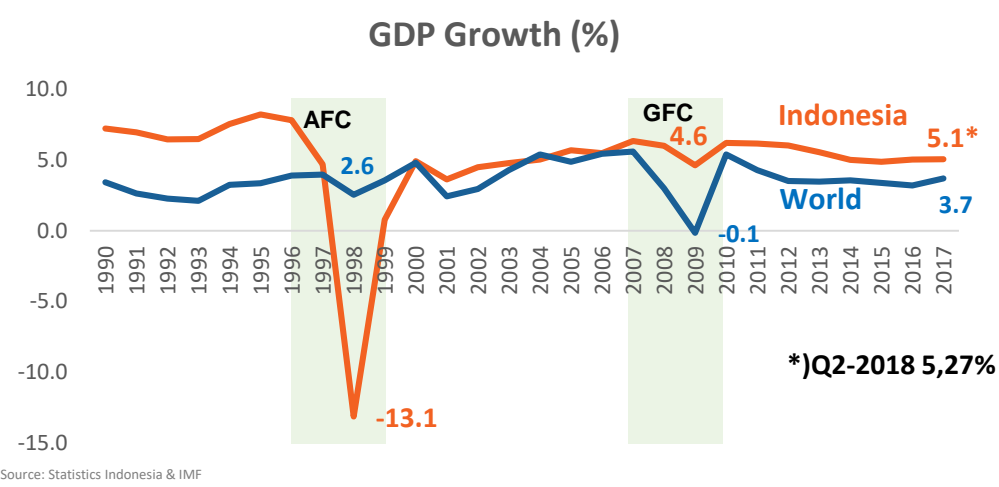
Source: Institute for the Future of University of Phoenix



INDONESIA DEVELOPMENT

INDONESIA ECONOMY IS IMPROVING

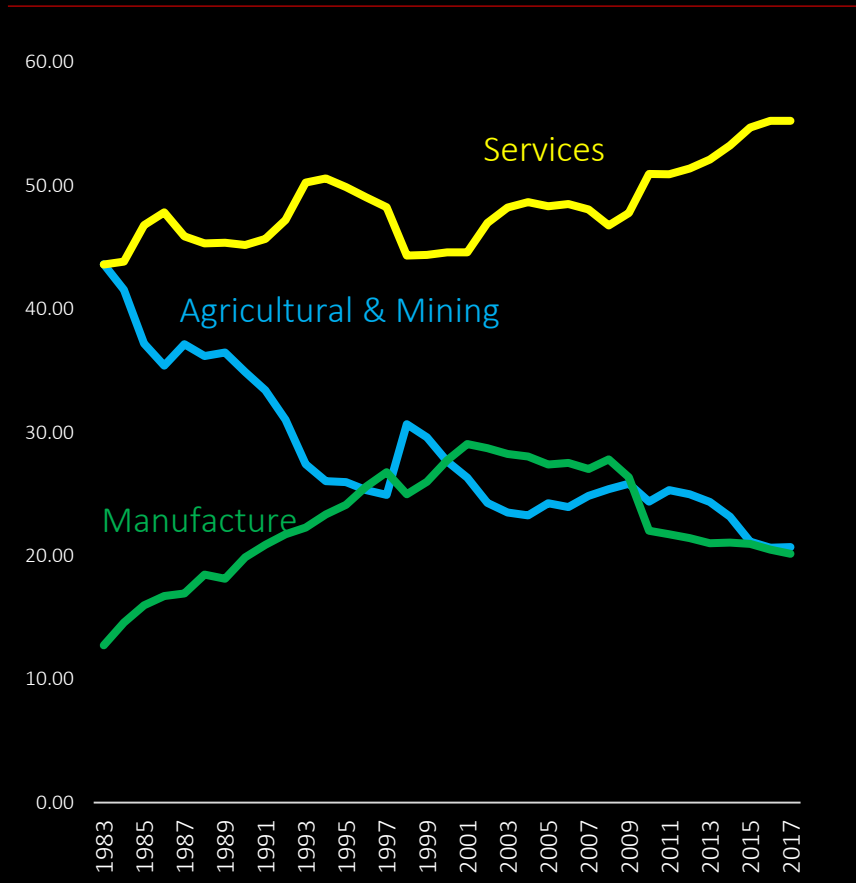
Stable economic growth, benign inflation, better society's welfare



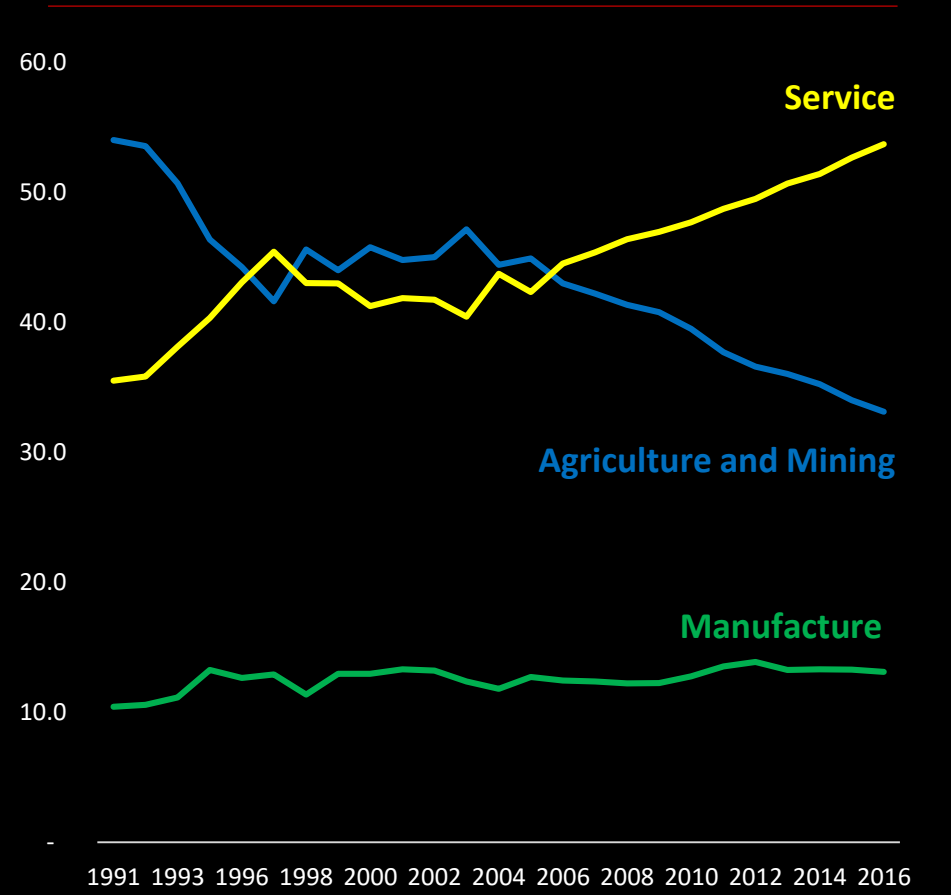
INDONESIA ECONOMIC STRUCTURE HAS SHIFTED TO SERVICE SECTOR, MOSTLY DRIVEN BY TECHNOLOGICAL CHANGE

Necessity to keep developing a strong manufacturing sector

VALUE ADDED (% OF GDP)



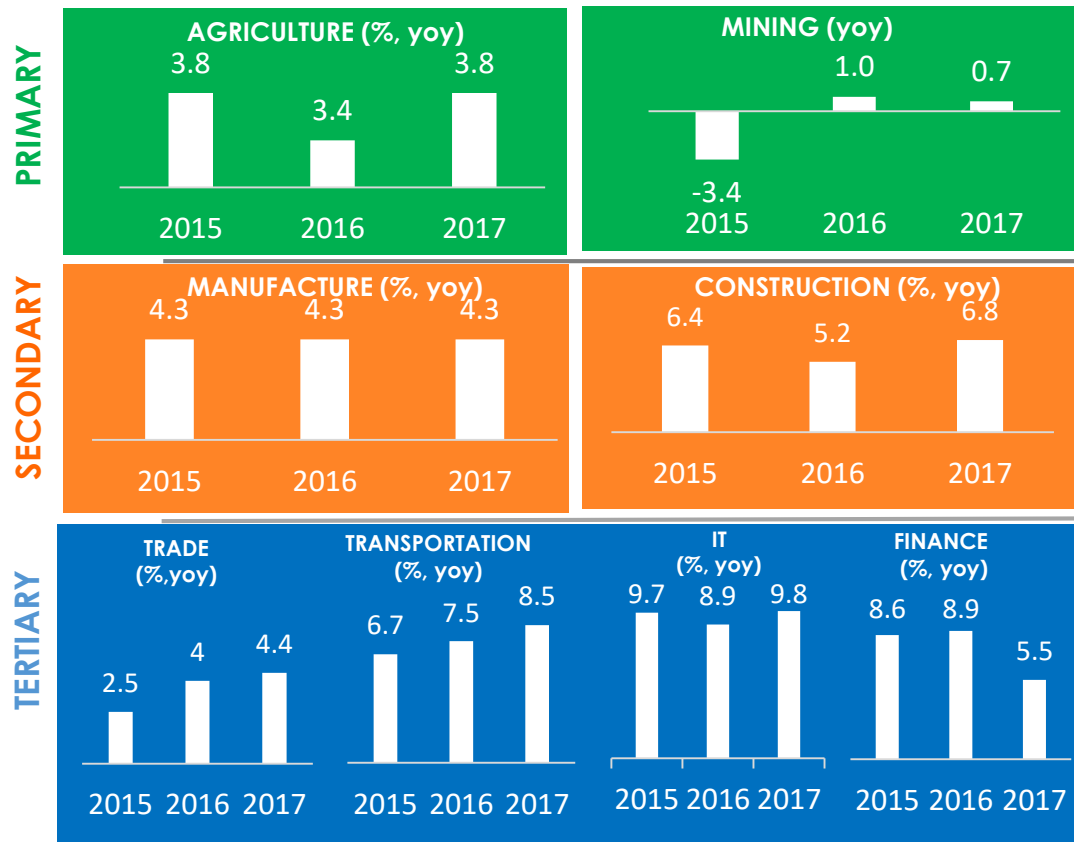
SECTORAL EMPLOYMENT SHARE



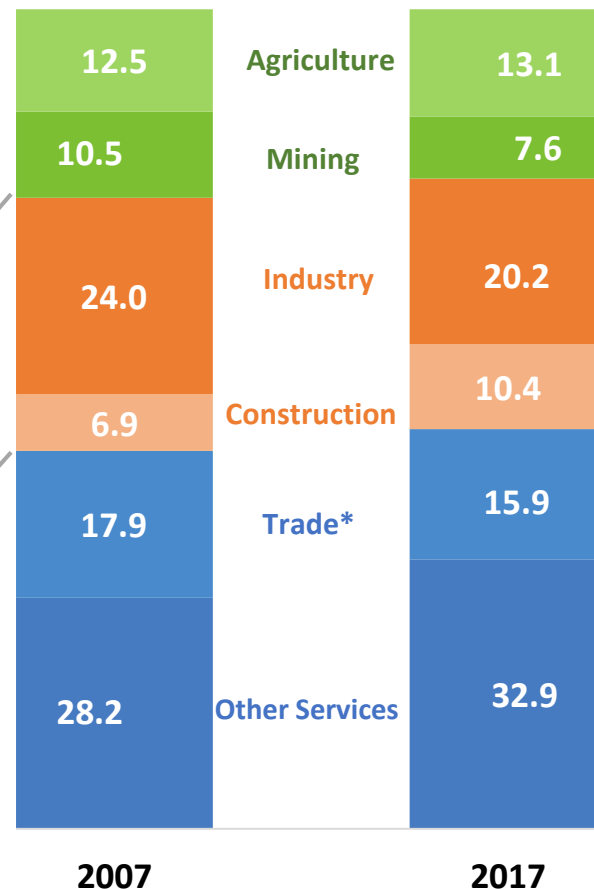
TECHNOLOGY RELATED SECTORS PLAY A CRUCIAL ROLE IN THE ECONOMY

Industrial and service sectors contributed most to the GDP growth

Sectoral GDP Growth (%)



Sectoral Contribution to GDP (%)

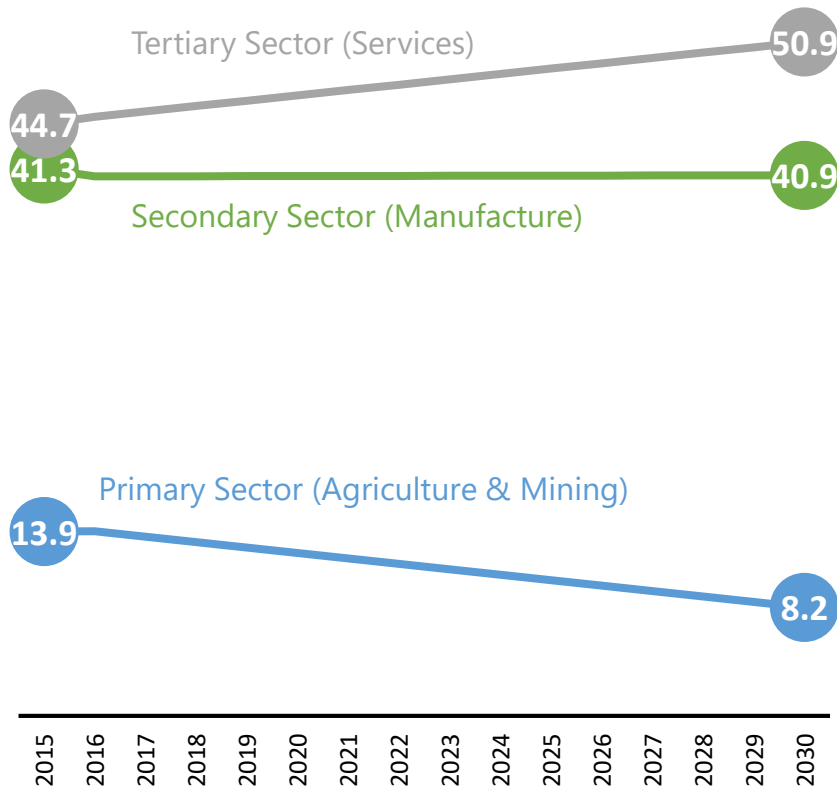


*includes food and drink accommodation

ALL SECTORS ARE CRUCIAL TO ECONOMIC GROWTH

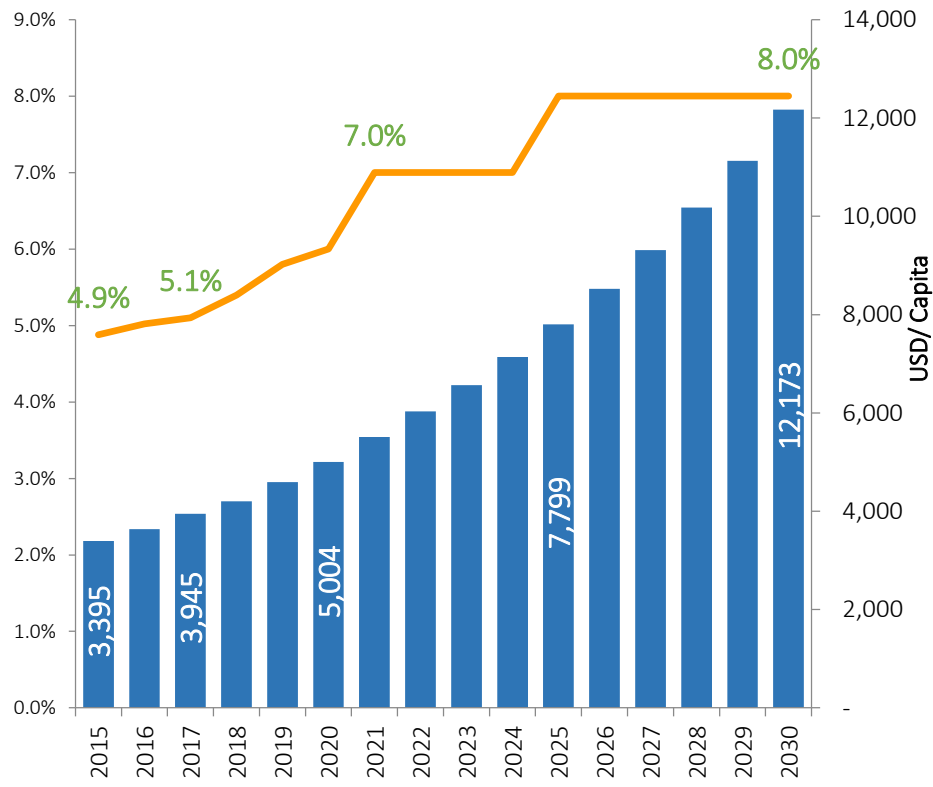
With the support from sound development of all sectors, the economy is projected to grow

Projection of GDP Distribution from Production Side



Source: Statistics Indonesia & Fiscal Policy Agency

Projection of GDP Growth and GDP per capita



Source: Statistics Indonesia & Fiscal Policy Agency



OPPORTUNITIES AND CHALLENGES FOR INDONESIA'S HUMAN CAPITAL DEVELOPMENT

INDONESIA DEMOGRAPHIC BONUS

Young generation become the important actor for economic development in today's advancing technology

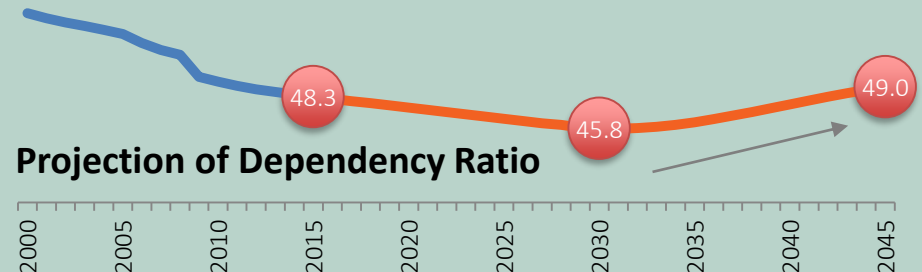
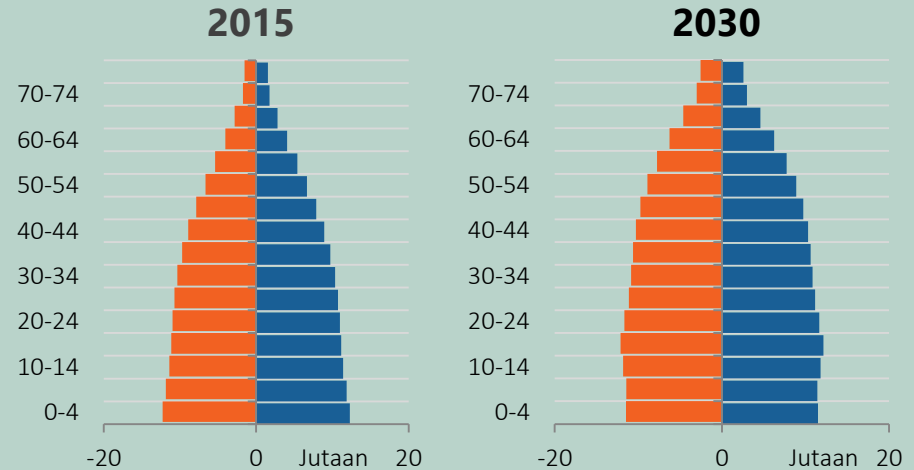
Indonesia Demography

Indonesia's population structure is projected to be dominated by productive age who live in urban areas



The young generation is easier to adapt to technological developments and innovate
(creative, confidence & connected)

Projection of Population Proportion



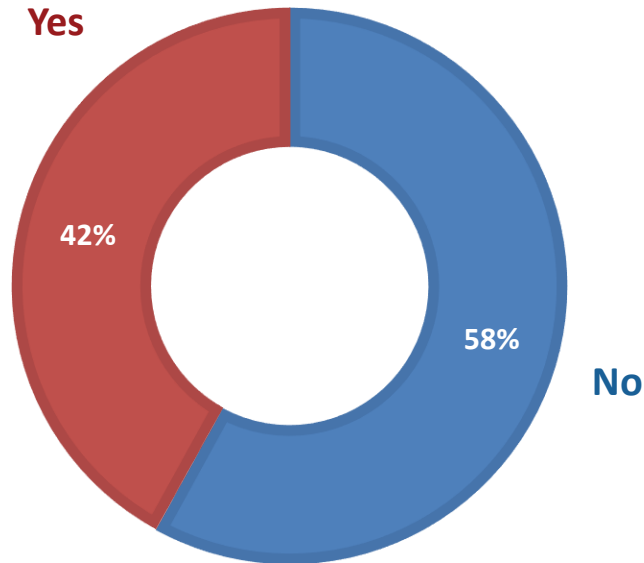
Source: statistics Indonesia

There is Still a Pessimism Towards Indonesian Readiness to Develop and Adapt to Technology

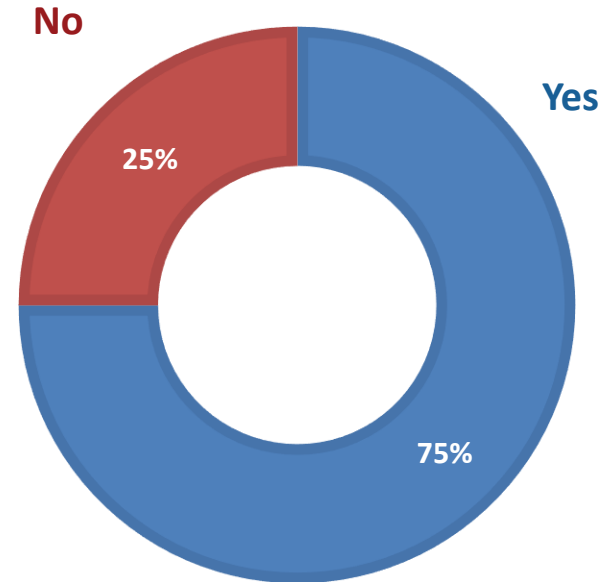
Is Indonesia Ready to Face the Impact of Technological Development?

Survey results at the International Seminar on the Fiscal Policy Office of the Ministry of Finance "Riding the Waves of Technological Change: Way to Forward to Drive Productivity & Alleviate Poverty"
December 2017

Does Indonesia Have the Technological Ability to Support Growth and Productivity?



Will Your Current Job be at Risk of being Replaced By a Machine (Technology)?



Poverty and Inequality Rate (Including Inequality in Access and Education) Still a Development Challenge, Including the Use of Technology

Mastery of technology, availability of infrastructure (including digital infrastructure) and connectivity in Indonesia are still not equally distributed



Picture: two women in Labengki Island, Sulawesi with limited internet and smartphone penetration

National Poverty Rate

March 2015 : 11,22

March 2016 : 10,86

March 2017 : 10,64

September 2017 : 10,12

March 2018 : 9,82

(Recorded the lowest)

National GINI Ratio

March 2015 : 0,408

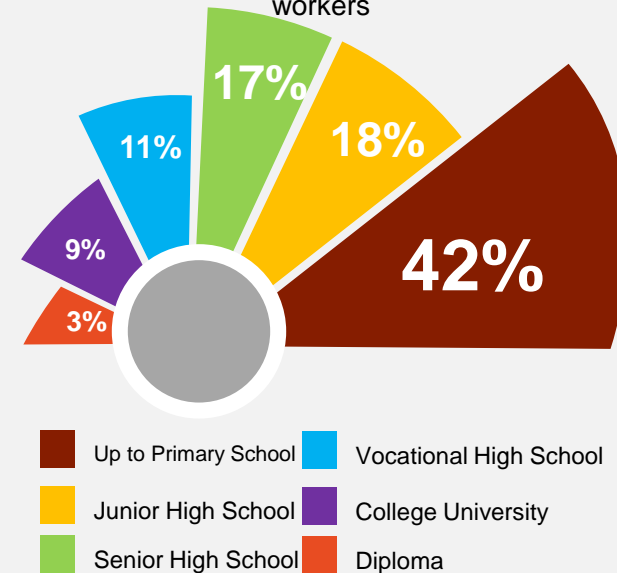
March 2016 : 0,397

March 2017 : 0,393

September 2017 : 0,391

March 2018 : 0,389

Distribution of the education levels of Indonesian workers



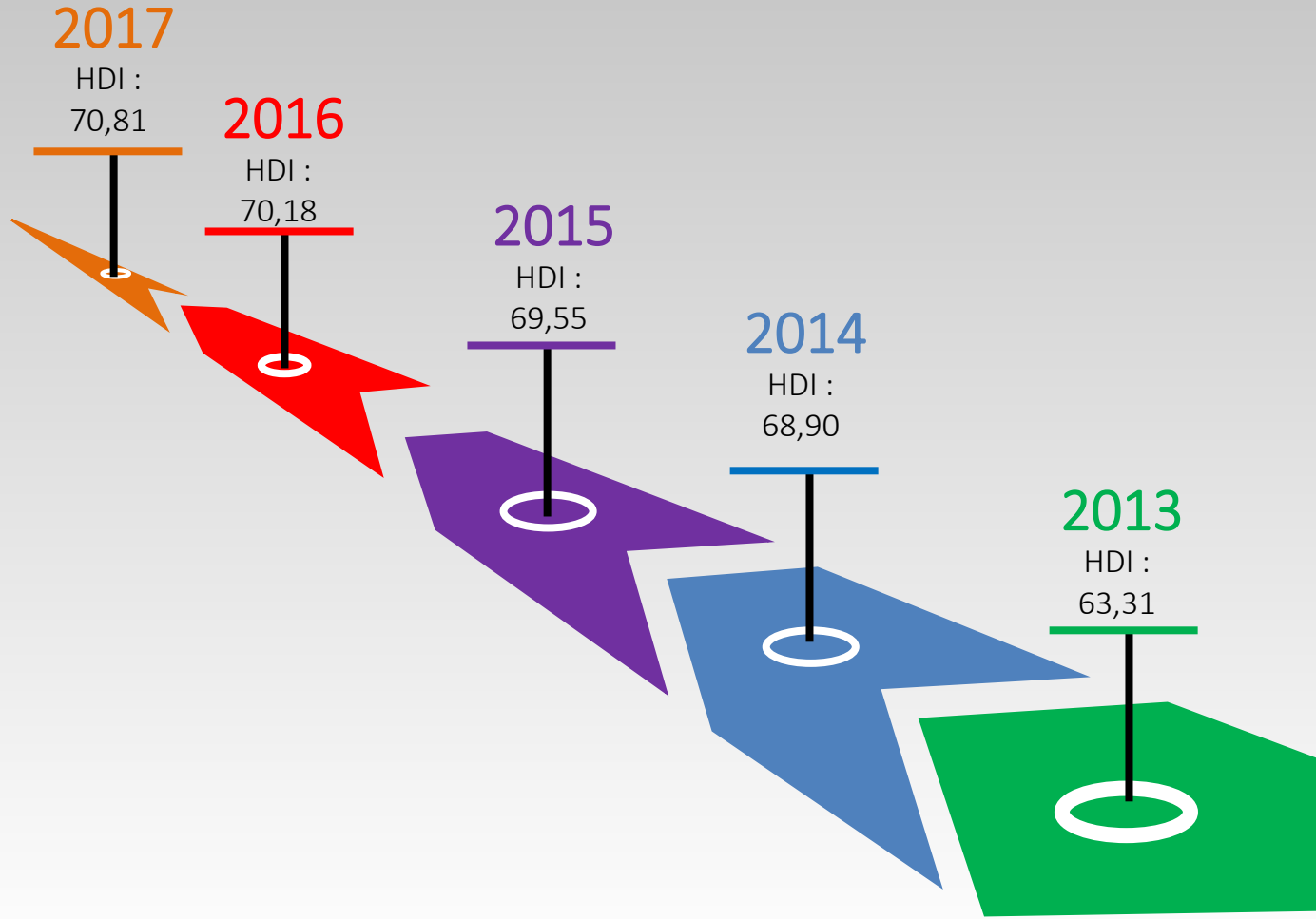
Source: Statistics
Indonesia

Indonesia's HDI is Increasing

Indonesia still needs to improve education and human development in general

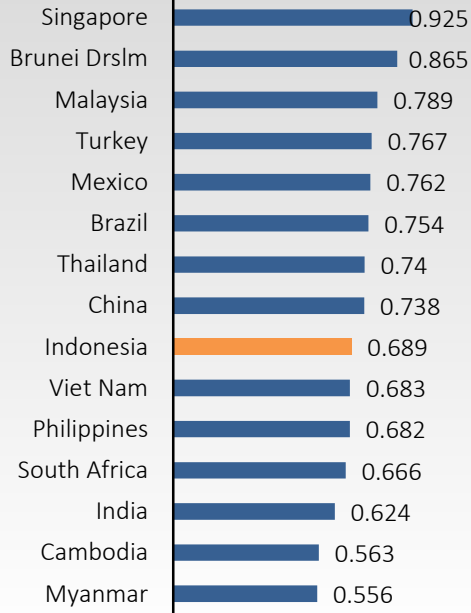
HDI Trend of Indonesia

Source : Statistics Indonesia



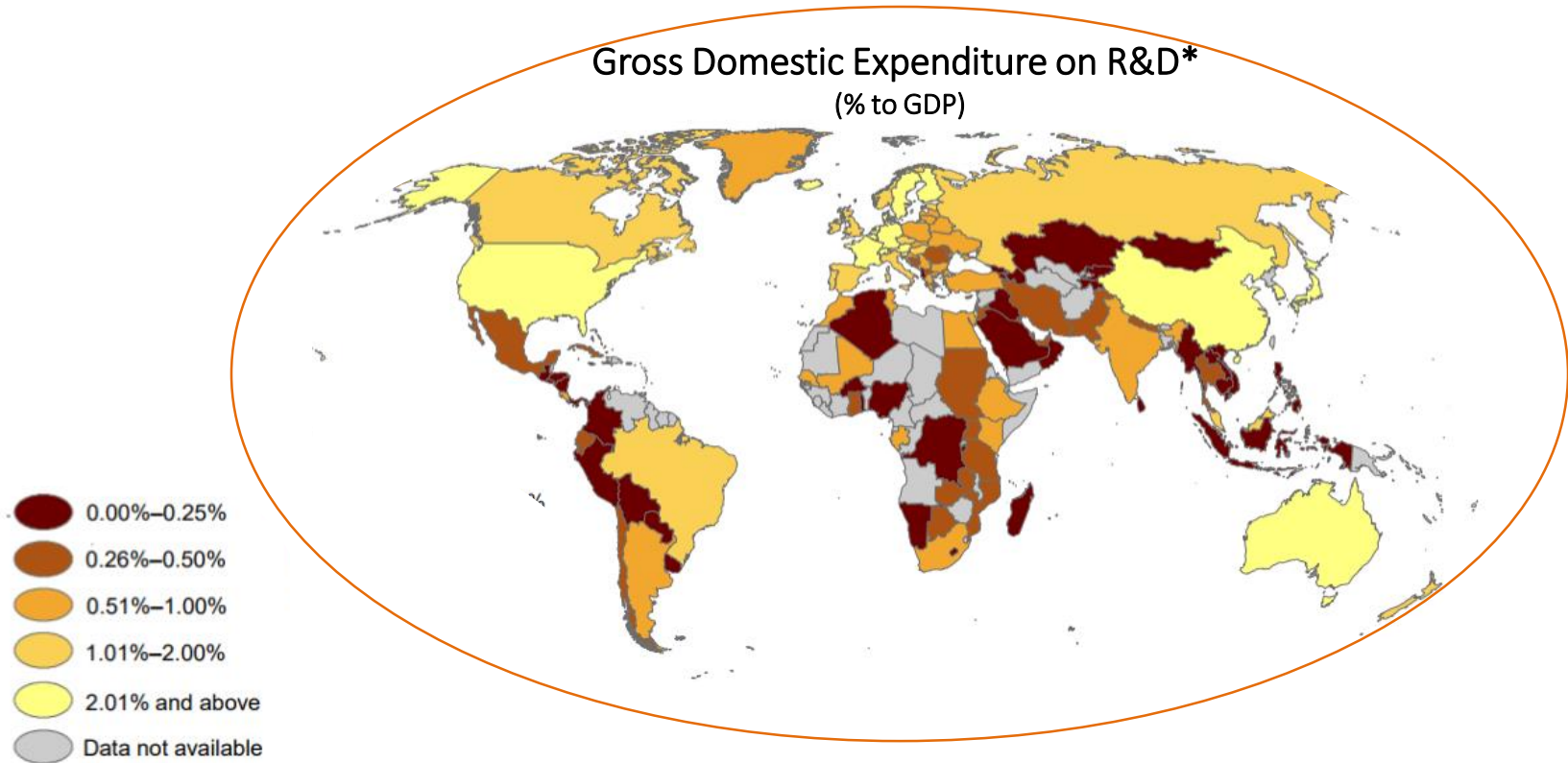
Human Development Index 2015

Source : UNDP



Indonesia is still lagging behind in Research and Development

Being one of the obstacles to the competitiveness of the Indonesian economy



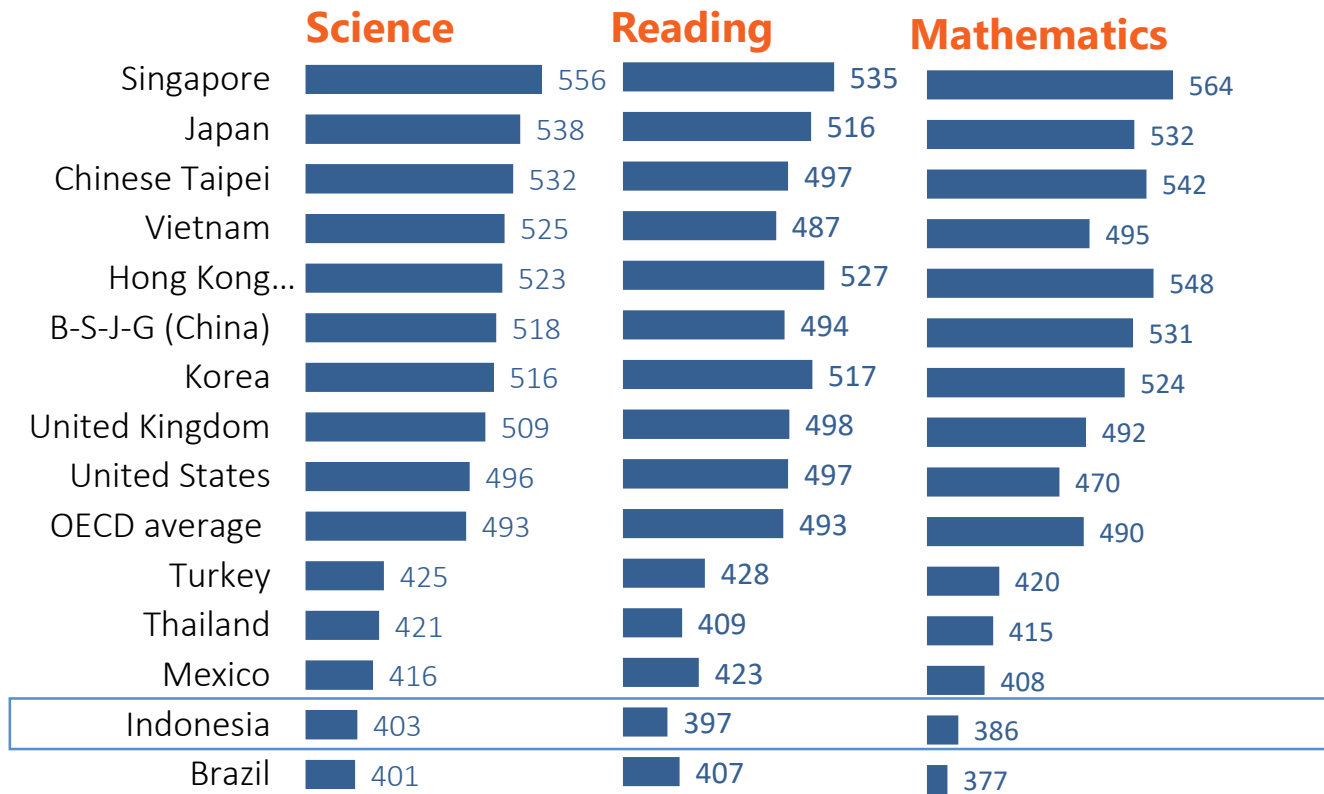
**Source: UNESCO Institute for Statistics, October 2015
Data in 2013*

INDONESIA'S EDUCATION QUALITY IS STILL FAR BEHIND THE DEVELOPED COUNTRIES

Education quality is crucial to be a foundation for a strong and sustainable economy

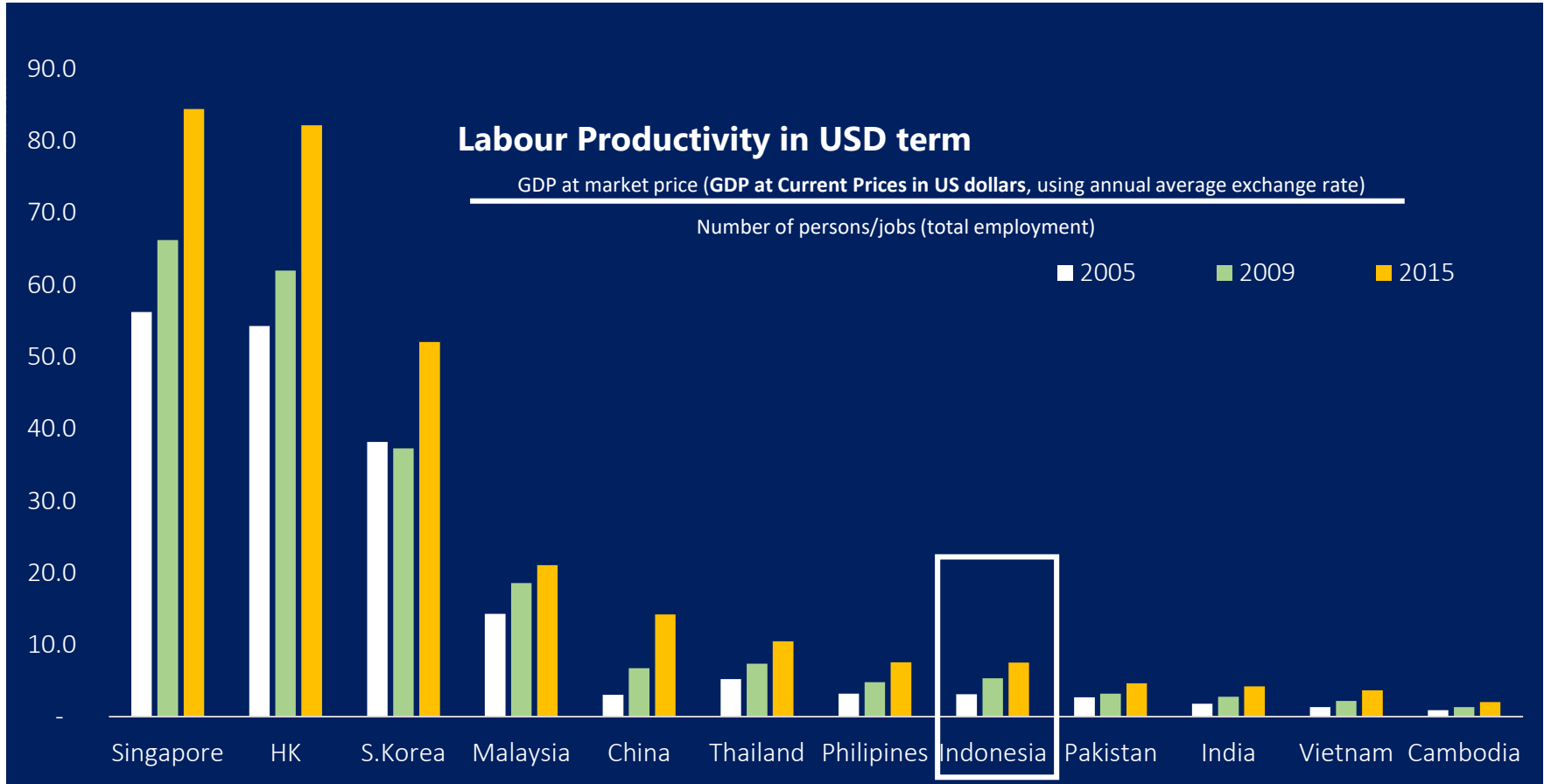
Programme for International Student Assessment Score (PISA) 2016

Source : OECD



“the performance of Indonesian students (girls and boys) in science, mathematics and reading is one of the lowest among PISA-participating countries with an average ranking of 62 out of 69 countries”

Low Labour Productivity



Source : Asian Productivity Organization, staff calculation

Opportunity in Digital Economy

Indonesia's internet penetration

2013

38
millions

2015

88
millions

2020

145
millions

Average Indonesian access to the internet are 3,5 hours/day (2x USA)



51%



71%



67%

Source: We Are Social Indonesia, 2017

Positive correlation between GDP/Capita and internet penetration



65
%

5.8%



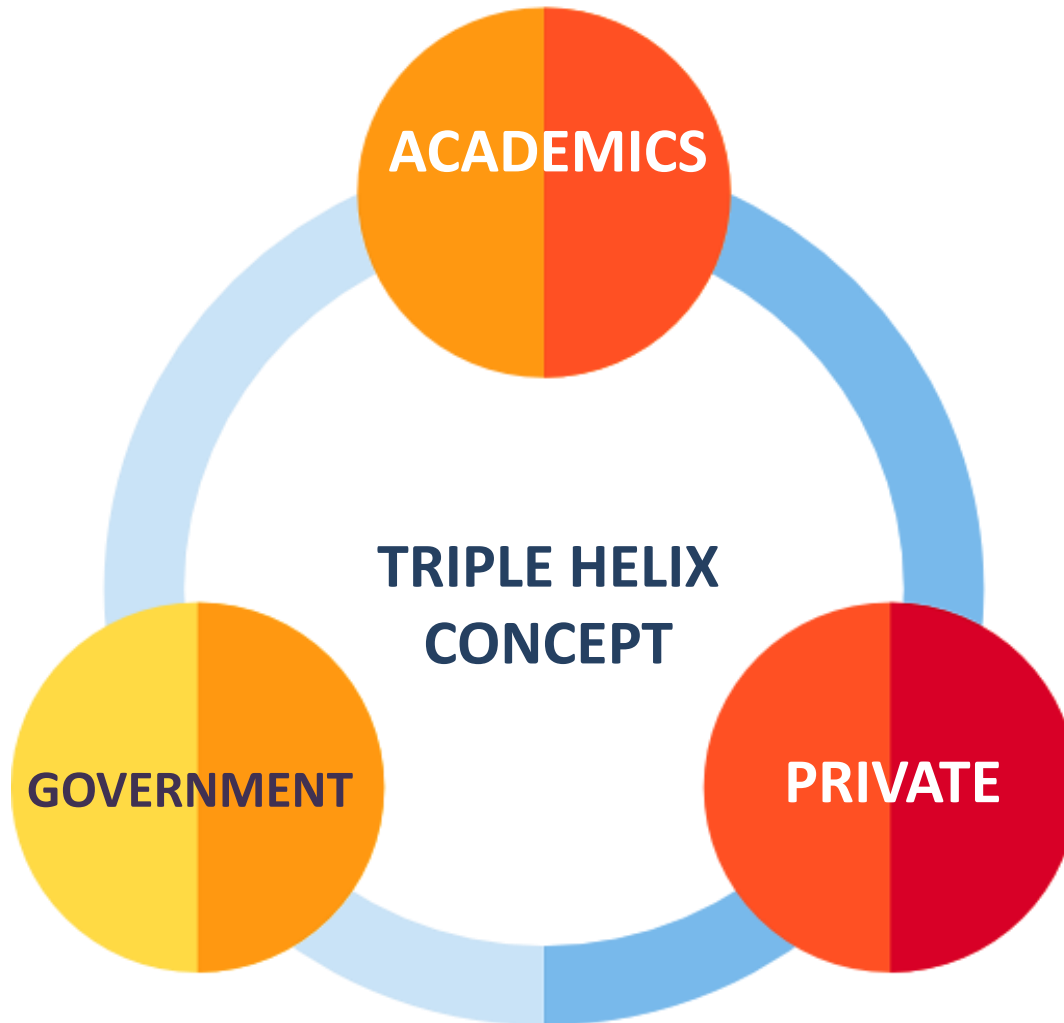
2.5%

Source: Indonesia Internet Service Provider Association (APJII), 2016

Promising Progress



Solid Cooperation Between the Government, Academic and Private Sector is Significant to Fight the Challenges of Technological Change



Sinergy to strengthen:

Science & Technology

Innovation

Productivity

Research & development

Value added

Industry & economy



THE GOVERNMENT POLICIES TO ENHANCE INDONESIA'S HUMAN CAPITAL

Indonesia's Potential

**Demografic
Bonus**

**Skillfull Labor
Force**

Budget Support

**Bigger allocation
on education and
health sector**

**Need to improve
on effectiveness**

Will be focus on

Vocational school

**Improvement on
student and
teacher**

**Increase skill to
address
digitalisation and
Industry 4.0**

2019 Proposed Budget

2019 Proposed Budget
 Outlook 2018
 Trillion rupiah

the budget deficit in 2019 is directed towards further decline

- (297,2) % 1,84% PDB
 O (314,2) O 2,12% PDB

primary balance is getting closer to positive

21,7
 O (64,8)

Budget Financing

297,2
 O 314,2

Debt financing 359,3 Investment financing (74,8)
 O 387,4 O (65,7)

Central Government Expenditure

1.607,3
 O 1.453,6

Transfer to Region & Village Fund

832,3
 O 763,6

State Expenditure

2.439,7
 O 2.217,3

Taxation

1.781,0
 O 1.548,5

Non-Tax

361,1
 O 349,2

State Revenue

2.142,5
 O 1.903,0

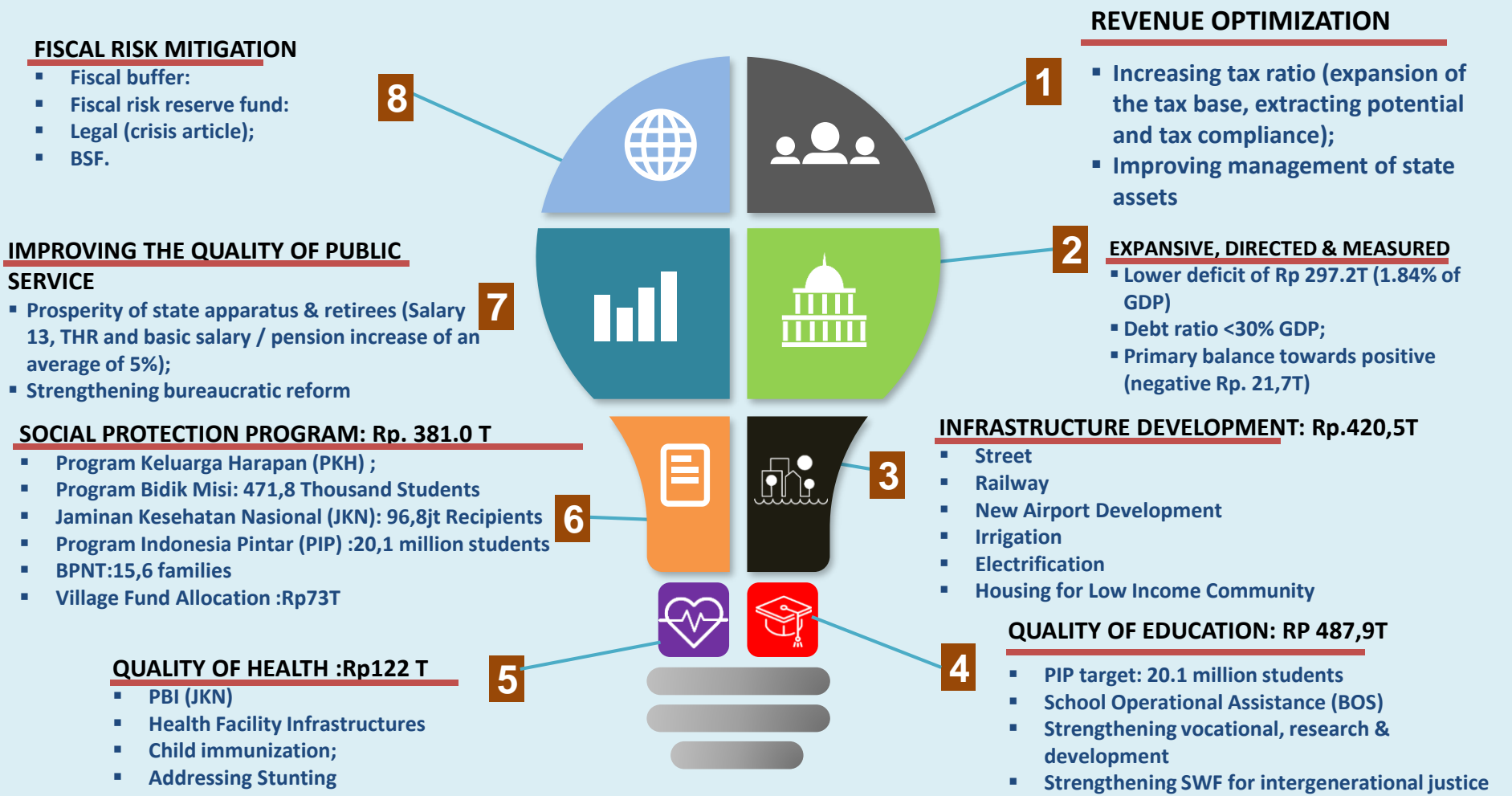
Grant

0,1
 O 0,0

2019

2019 STRATEGIC POLICY TO ANSWER THE CHALLENGES?

Strengthening the quality of human resources, social protection, infrastructure and fiscal decentralization



Government Support on Digital Technology Development

Policy Package # XIV in November 2016



*Financial
Support*



*Tax
Relaxation*



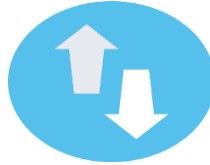
*Human capital
capacity building*



*Consumer
Protection*



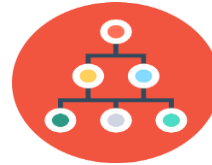
*Logistic
Support*



*Telecommunication
Infrastructure*



*Cyber
Security*



*Managerial
support*

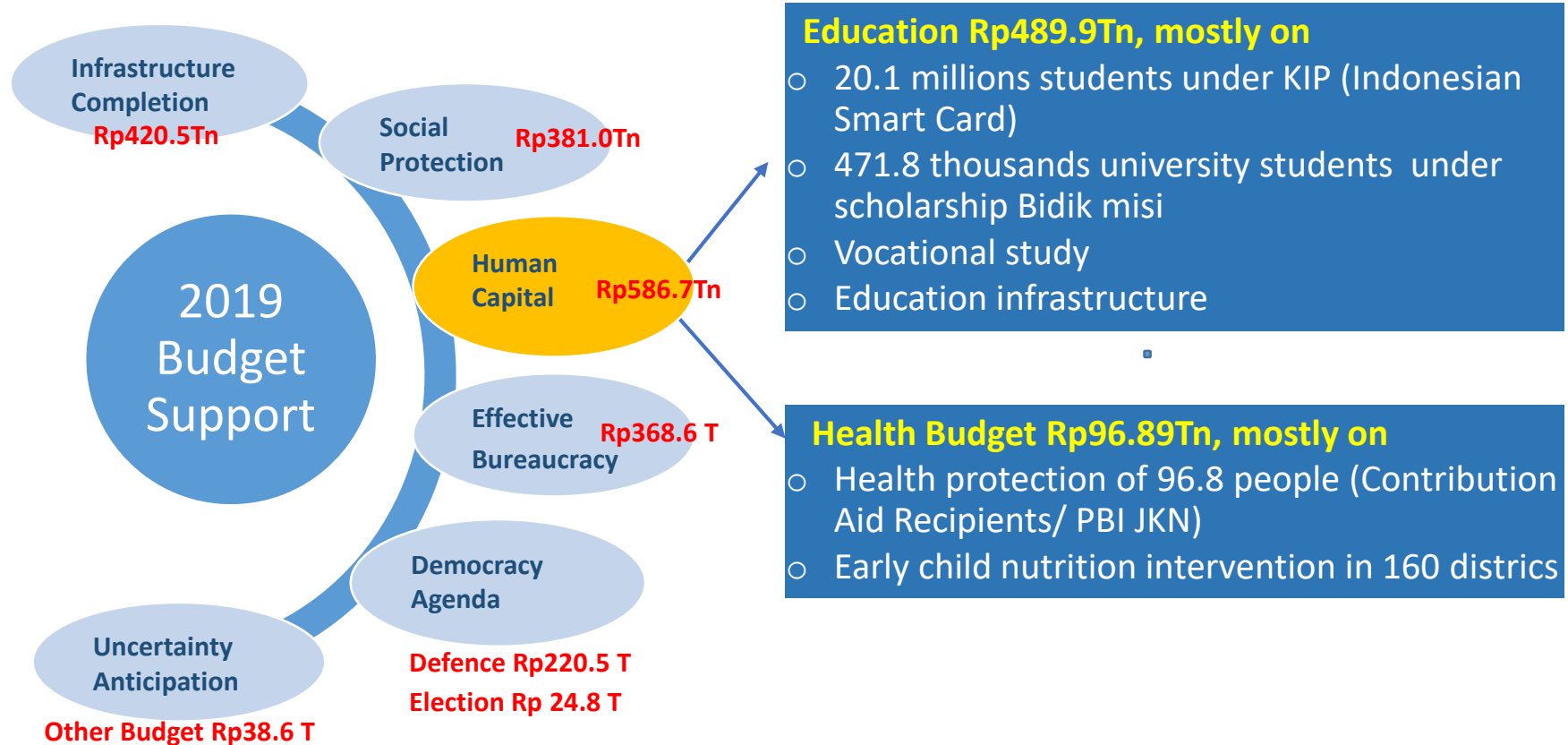
1000
Technopreneurs

Business valuation:
US\$ 10 billion

E-commerce value
US\$ 130 billion

INDONESIA E-COMMERCE
IN 2020

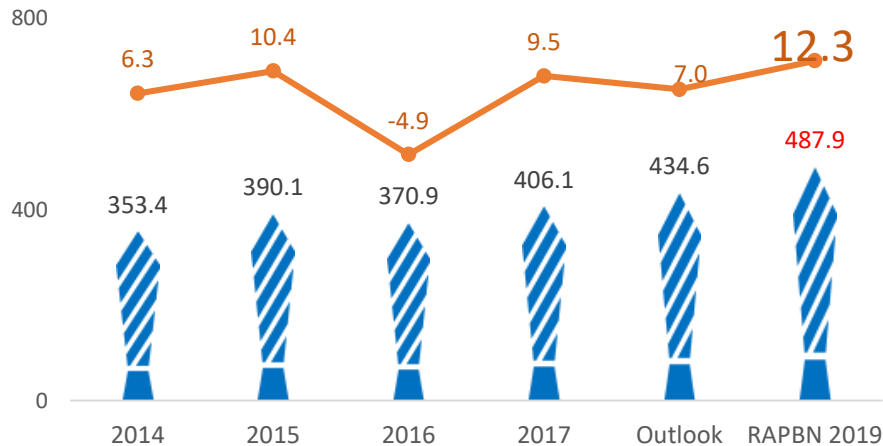
2019 Budget to support Human Capital Development



The Education Budget is maintained at 20% of the Budget, directed to improve access, distribution and quality of education

Improvement in Education Sector

Growth (%)



Education budget

2019 Budget

Some improvements are made

Quality Improvement:



Improving teacher quality through inter-regional teacher certification and redistribution

Increasing the effectiveness of BOS (School Operations Aid)

Transfer of BOS from Ministry of Education and Culture to DAK (2016) BOS based on performance (2019)

Access Improvement:



The Smart Indonesia Program of 19-20 million students / year was followed by an increase in target accuracy

Acceleration of the construction of school and university facilities (part of which is carried out by the Ministry of Public Works and DAK supervised by the Ministry of Public Works) Expansion of the affirmation / Bidik Misi scholarship program (2015: 269 thousands) (2019: 417 thousands)

Strengthening LPDP in the form of SWF as the Education endowment manager starting in 2017 and 27 thousand scholarships has been distributed.

Synergy Strengthening:

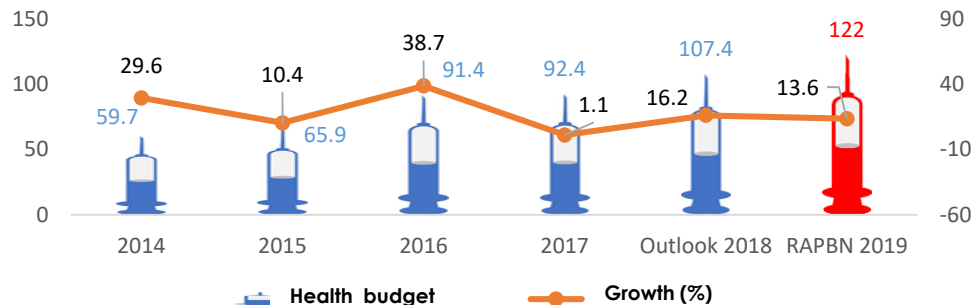


Budget Synergy between Ministries and Special Allocation Fund and enforcement to fulfill the education budget by the Regional Gov.

Link and match vocational education

5% Health Budget to improve access and quality of health services, as well as strengthening the handling of stunting

Improvement in Health Sector



	2015	2019	Trillion Rupiah
● Central government	54.6	88.2	
Ministry of Health	45.9	58.7	
B POM	1.0	2.0	
B KKB N	2.2	3.8	
Health Insurance for Civil Servant	4.4	5.8	
● Local government	6.3	33.7	
DAK Physical	5.2	20.3	
BOK and BOKB	-	12.2	

Some improvements are made

Quality Improvement

- Improving the quality and availability of health workers
- Increased effectiveness of BOK and BOKB*)
- Transfer of BOK and BOKB from Ministry of Health to DAK (2016)
- Strengthening promotive and preventive programs
- Encouraging a healthy lifestyle through Germas
- Improved nutrition for pregnant, lactating and toddlers and immunization

Access Improvement

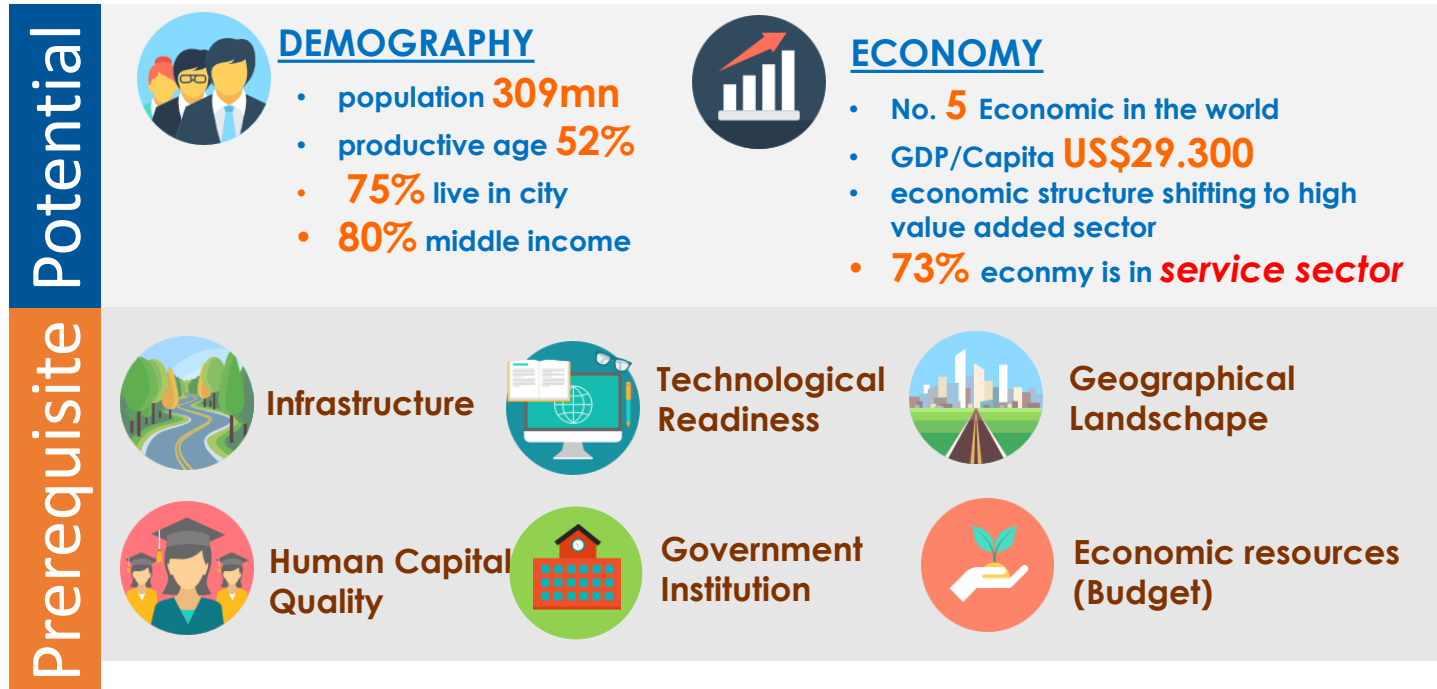
- Expansion of Contribution Aid Recipients in the framework of National Health Insurance (2015: 86.4 million people; 2019: 96.8 million people) followed by an increase in target accuracy
- Improving services at first-level health facilities

Synergy Strengthening

- Budget Synergy between Line Ministries and DAK
- Enforcement fulfills the health budget by the Regional Government Encouraging PPP to build hospitals in the regions
- Strengthening stunting handling efforts

*)
BOK: Health Operations Aid
BOKB: Family Planning Operations Aid

Indonesia Potential in 2045



If Prerequisite is unfullfilled,
demographic dividend might change to
demographic burden



EARLY INVESTMENT!



MINISTRY OF FINANCE
REPUBLIC OF INDONESIA

THANK YOU