



# Digital Economic Challenges and Economic Growth in Environmental Revolution 4.0

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## Abstract

Nowadays, the world has transformed as an environmental revolution 4.0 eras. The revolution provides challenges and opportunities for future environmental development. In addition, digitalization, automation, and the use of artificial intelligence in economic activities will increase productivity and efficiency in modern production which also provides convenience and comfort for environmental issues. Digital technology also helps the development process in various fields including environmental improvements, like global warming, acid rain, air pollution, urban sprawl, waste disposal, ozone layer depletion, water pollution, climate change and many more affect every human, animal and nation on this planet. In addition, the growth of various environmental activities and online-based buying and selling has not been accompanied by efforts to optimize state revenue and supervise tax compliance on these transactions. This is very important part, because digital transactions are cross country and it's an aid for environmental changes.

**Keywords:** Economic growth, Economic challenges, Industrial revolution

## 1 Introduction

The products of the data society are anything but difficult to see, with a cellphone in each pocket, a PC in each rucksack, and enormous change innovation frameworks in back workplaces all over. In any case, less perceptible is simply the data. 50 years after PCs entered standard society, the information has started to amass to the point where something new and exceptional is occurring. Not exclusively is the data is becoming quicker. The difference in scale has prompted a difference in state. The quantitative change has prompted subjective one. The sciences The 2015-2019 Medium-Term Development Plan (RPJMN) implementation faced various challenges of global economic problems, such as the Greek debt crisis, Brexit, US policy uncertainty, for instance, trade protectionism and monetary policy normalization, China's economic rebalancing process, and the end of the commodity boom era. This has led to the slow recovery of world economic and trade growth after the 2008 global financial crisis (1-6).

However, the domestic economy continued to grow at an average of 5.0 percent per year during the first four years of

the implementation of the RPJMN (2015-2018), which is higher than the developing countries average at 4.5 percent per year. This achievement was supported by a variety of structural reform policies, including the policy to improve the investment climate, industrial competitiveness, logistics efficiency, export stimulus, tourism promotion and strengthening people's purchasing power (7-10, 12).

The relatively high economic growth was driven by various sectors' growth. The processing industry grows an average of 4.3 percent per year. Furthermore, the agricultural industry grows an average of 3.7 percent per year, such as by improving the agricultural infrastructure to encourage the productivity. Meanwhile, the service industry is able to become the engine of economic growth, including the information and communication services industry and the transportation and warehousing industry which grew respectively by 8.8 and 7.4 percent per year. From the expenditure, the investment grows on average of 5.6 percent per year and becomes a major encouragement of economic growth. The supporting investment growth is mainly supported by improving the investment climate, infrastructure development, and investment services. Furthermore, household consumption is able to grow an average of 5.0 percent per year. In addition, government consumption grew by an average of 3.0 percent per year amid the downward

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pressure on the state revenues. Meanwhile, both exports and imports of real goods and services grew at an average of 2.9 percent per year (11, 13-16).

## 2 Global Uncertainty

In the future, the risk of uncertainty will still color the world economic growth. The economic growth and world trade are estimated to be stagnant with a slowing trend, in which each is projected at 3.6 and 3.8 percent per year, for the 2020-2024. The price of Indonesia's main international export commodities is also expected to decline, including coal and palm oil, along with the shifting of world demand to other products. Other uncertainties that need to be anticipated include the trade war, the economic slowdown in China, and the pressure of normalizing monetary policy that moves from the US to the European region (17-20).

The macroeconomic stability must be maintained which is reflected as the controlled inflation and exchange rate, increased foreign exchange reserves and the current account which has the safe limits. During 2015-2018, the inflation reached an average of 3.3 percent per year, or within the target range. Meanwhile, in the exchange rate control and the current account deficit processing, the condition of Indonesia's payments balance is still relatively strong as reflected in the increase of Indonesia's foreign exchange reserves from USD111.9 billion in 2014 to USD120.7 billion on December 2018 (21-24).

At the fiscal side, policies will continue to be directed at supporting growth and maintaining economic stability, while constantly pays attention to the medium-term fiscal sustainability. This is reflected in the debt ratio which is lower than 30 percent of GDP and the budget deficit and primary balance that continues to shrink and lead to positiveness in 2018. Through a strong and stable economic performance, the welfare of the community has increased. The expansion of the domestic economy is estimated to create more than 9 million additional jobs in 2015-2018. The unemployment rate fell to 5.34 percent in 2018 which was 5.94 percent in 2014. Besides, GDP per capita continued to increase from USD3,531 in 2014 to USD3,927 in 2018, which is equal to GNI per capita<sup>1</sup>. (Atlas Method) USD 3,820, it is on the threshold of high-middle income countries. The poverty rate was reduced to one digit (9.82 percent in 2018) which was encouraged by the effectiveness of poverty alleviation programs. The Gini ratio had decreased from 0.414 in 2014 to 0.389 in 2018, which reveals the reduction of income inequality. Another development target is the Human Development Index (HDI) which had increased from 68.9 in 2014 to 71.39 in 2018 (25-30).

## 3 The Stagnant Economic Growth

After the 1998 economic crisis, Indonesia's average economic growth was only around 5.3 percent per year, even in the last four years, Indonesia's economic growth tends to stagnate around 5.0 percent. This level of economic growth is difficult for Indonesia to upgrade to a high-income country or catch up with per-capita income of peer countries. The stagnant economic growth is mainly caused by the low level of productivity as the structural transformation does not go on. The inhibiting factors are: (1) overlapping regulations and

inhibiting bureaucracy; (2) the system and the amount of tax revenue have not been sufficient enough; (3) infrastructure quality is still low especially connectivity and energy; (4) low quality of human resources and labor productivity; (5) low financial sector intermediation and shallow financial markets; (6) ineffective innovation system; (7) the poor of upstream-downstream linkages. The undeveloped processing industry has an impact on Indonesia's international trade performance. Currently, Indonesia's exports are still dominated by commodity exports with foreign transportation services, which has no differences from 40 years ago. The ratio of exports to GDP had declined continuously from 41.0 percent in 2000 to 21 percent in 2018. As a result, Indonesia still has a current account deficit at 3 percent of GDP, while several peer countries have recorded a surplus. In the midst of tight global financial conditions, the increase of current account deficit is an obstacle for the acceleration of faster economic growth (31-34, 36).

Economic growth is expected to increase by an average of 5.4 to 6.03 percent per year and GDP per capita growth of 4.0 +/- 1 percent, which is driven by the productivity, sustainable investment, improvements in the labor market, and the quality of human resource improvement. By this target of economic growth, the GNI per capita (Atlas Method) is expected to increase to USD5,780 - 6,160 per capita by 2024. Beside in maintaining the economic growth, price stability has to be a priority. The inflation rate is targeted at  $3.0 \pm 1$  percent throughout 2020 - 2024. This macro condition has an impact on improving the development quality. The poverty and unemployment rate are expected to decrease to 6.5 - 7.0 percent and 4.0 - 4.6 percent in 2024. The level of the gini ratio decreases to 0.370 - 0.374 in 2024, while the HDI is expected to increase to 75.54 in 2024, which indicates an improvement in the quality of human resources. To achieve the quality economic growth in the next five years, improving structural transformation is one of the main keys. The improvement in structural transformation was mainly driven by the revitalization of the manufacturing industry, while encouraging the development of other sectors through the modernization of agriculture, downstream mining, sustainable infrastructure development, and transformation of the service sector (35, 37).

## 4 Strengthening Domestic Demand and Diversification of Exports and External Stability

In domestic demand, public consumption (household and LNPR) is expected to grow by an average of 5.16 - 5.29 percent per year. The increase of public consumption is driven by an increase in community income along with the creation of bigger and better jobs, price stability, and better targeted government social assistance. Government consumption will grow an average of 4.13 - 4.23 percent per year supported by an increase in government spending, both central and transfers to the regions, along with an increase in state revenues, especially tax revenues (38-40).

The economic expansion of 2020-2024 will be mainly driven by investment increasing (gross fixed capital formation) which grows 6.88 - 8.11 percent per year. To achieve this target, private investment (foreign and domestic)

will be encouraged through deregulation of investment procedures, synchronization and harmonization of licensing regulations, including increasing Indonesia's EoDB from rank 73 in 2018 to 40 in 2024. Increasing the investment is also driven by an increase of government investment, including BUMN, especially for infrastructure. This is indicated by an increase of infrastructure stock to 50.0 percent of GDP and capital expenditure to 2.3 - 2.8 percent in 2024. Increasing the investment will be aimed at increasing productivity, which will encourage investment efficiency increase (41).

Overall, exports of goods and services grew an average of 6.21 - 7.67 percent per year. The exports of goods increase in 2020-2024 will be supported by the revitalization of the processing industry that encourages diversification of non-commodity export products, and reduces dependence on imports. The increase will also be driven by exports of services increase, particularly travel services, through the development of the tourism sector, while imports of goods and services grew by an average of 6.42 - 7.42 percent a year driven by increased domestic demand, especially investment. The improved performance of international trade will encourage the strengthening of external stability, which is characterized by an improvement in the current account deficit to 2.0 - 1.3 percent of GDP and an increase in foreign exchange reserves to USD161.1 - 184.8 billion in 2024 (42-46).

## 5 Maintaining Fiscal and Inflation Sustainability

The government is committed to maintain a healthy state budget while continuing to provide stimulus to the economy. The country's income is targeted to increase to an average of 13.7 - 14.8 percent of GDP per year, with the taxation ratio reaching an average of 11.7 - 12.7 percent of GDP per year. This was achieved through continuous improvement both in terms of administration and policy. From the administration side, the tax administration system will continue to be updated to improve the tax database and increase compliance. From the policy side, the government will continue to explore the potential for revenue, including potential originating from cross-border digital service activities and extensification of excisable goods. Meanwhile, this policy is also balanced with the role of policy taxation as an instrument of investment through the provision of fiscal incentives that support the activity of creating economic addition value (manufacturing, tourism, creative and digital economy) (47, 48).

The stimulus of other economies is also carried out by sharpening state spending. Total state spending will average 15.8 - 16.8 percent of GDP per year, with central government spending averaging 9.9 - 10.3 percent of GDP per year and TKDD of 6.0 - 6.5 percent GDP. The deficit will be kept below the legal allowable limit of (2.2) - (2.0) percent of GDP per year with a primary balance close to zero, at an average (0.3) - (0, 2) percent of GDP per year. With this composition, the debt ratio will be maintained below 30 percent of GDP (49, 50).

A low and stable inflation rate is expected to maintain purchasing power and encourage public consumption so that it can support the acceleration of quality economic growth. The Government and Bank Indonesia are committed to

maintain a downward trend of low and stable inflation in the medium term. In the period 2020-2024, inflation control policies are directed to: (i) Increasing productivity, especially after harvest and increase Government Food Reserves (CPP); (ii) Reducing average inflation and volatility in 10 strategic food commodities; (iii) Reducing price disparities between regions with national average prices, and reducing inter-time price disparities; (iv) anchoring inflation expectations within the stated target; and (iv) improving the quality of statistics. During 2020-2024, the exchange rate was stable at its fundamental level to maintain export competitiveness. This can be achieved through the implementation of pre-emptive and ahead the curve monetary policies by the central bank and policy synergies which aimed to implement structural reforms in improving the competitiveness of the domestic economy (51-52).

## 6 Conclusion

Economic growth in each region is expected to go hand in hand with national economic growth. Policies in each region are expected to be aligned with policies at the national level, while still taking into account the advantages and unique problems with the characteristics of each region. In the next five years, economic growth will not only focus on Java and Sumatra. The areas outside of Java and Sumatra are estimated to have become the center of new economic growth. To achieve the target of an average economic growth of 5.4 - 6.0 percent per year, an investment of Rp. 36,595.6 - 37,447.6 trillion is needed during 2020-2024. Overall the need total, the government and SOEs will contribute 11.6 - 13.8 percent and 7.6 - 7.9 percent respectively, while the rest will be met by the public or private sector. To finance investment needs in 2020 - 2024, efforts are needed to deepen financial markets, especially non-banking, increase access to financial services (financial inclusion), and optimize financing alternatives. In addition, The aspect of economic development in the future is the environmental aspect. Climate change and the low environmental support could cause a negative impact on achieving economic growth targets. Therefore future development must be directed to maintain a balance between economic growth, reduction targets, emission intensities, the capacity of natural resources support, and the current and future capacity of the environment.

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## Ethical issue

Authors are aware of, and comply with, best practice in publication ethics specifically with regard to authorship (avoidance of guest authorship), dual submission, manipulation of figures, competing interests and compliance with policies on research ethics. Authors adhere to publication requirements that submitted work is original and has not been published elsewhere in any language.

## Competing interests

The authors declare that there is no conflict of interest that would prejudice the impartiality of this scientific work.

### Authors' contribution

All authors of this study have a complete contribution for data collection, data analyses and manuscript writing.

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