

The Pakistan Academy of Engineering

20th Symposium “National Productivity”

Scheduled on April 24, 2021

ONLINE

Address of the President,
Dr.-Ing. Jameel Ahmad Khan

My dear Worthy Fellows!

Council Members,

Learned Speakers,

Honourable Guests,

Ladies & Gentlemen!

SALAMUN ALA MANIT-TABAUH-HUDA

It is extremely encouraging for us that despite all sort of environmental impediments you have very kindly decided to participate in our 20th Symposium titled “National Productivity”. We have planned to discuss the subject comprehensively and to discover the root cause of the decline in the growth of our economy.

Productivity is the measure of production efficiency. At a national level it captures the economy’s resources to generate output and income.

Paul Krugman, the distinguished economist of US, wrote in the **Age of Diminishing Expectations (1994)** that “Productivity isn’t everything, but in the long run it is almost everything. A country’s ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker”.

There are three commonly used measures of productivity:

- Partial Factor Productivity (PFP)

Examples: Capital productivity (GDP per unit of capital)

- Labour Productivity

(Volume of output per hour worked, only a partial measure)

- Total Factor Productivity (TFP)

True measure of productivity

- Multifactor Productivity (MFP)

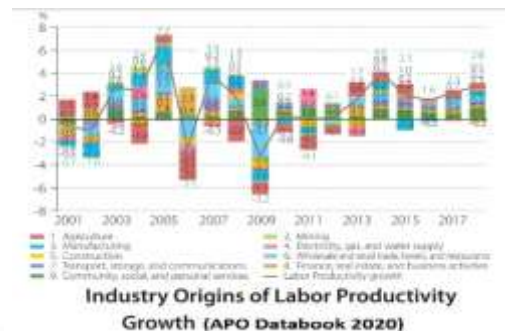
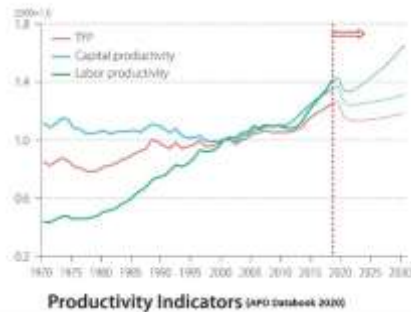
(Volume of output from a bundle of both labour and capital inputs.)

According to OECD (200/a) MFP reflects technological changes, as well as a range of non-technological factors such as industry and firm level adjustment, economies of scale and cyclic effects. Competitiveness is infinitely linked to productivity.

We have been looking for data of productivity in the various sectors of our economy and as a whole **National Productivity**. However, it has been very disappointing that even The Annual Report 2019-20 of our National Productivity Organisation does not provide any data. It is the **Productivity Databook 2020** issued by the Asian Productivity Organisation that provides data about Pakistan. Per-worker labour productivity level in 2018 was US\$ 15,500, and Per – hour

labour productivity level was US\$ 8.0. Agriculture share in GDP in 2018 was 24.4%, whereas Manufacturing share in GDP was 13.0%.

Labour Productivity, Capital Productivity and Total Factor Productivity all seem to register decline in the year 2019 to 2022. (Three Slides).



The **Global Competitiveness Report 2020** issued by the **World Economic Forum** ranked Pakistan 110th in 2019, sliding three steps in a year.

Our stock of workforce in the various sectors of our economy, our human capital occupies the top position for the sustainable growth of our national productivity.

The growth of our national productivity will eventually stem from a complex interaction of factors. The most important factors comprise technological transformation and resource allocation.

Living standards, both in terms of quality and quantity, will rise with the productivity growth. However, it is extremely disappointing to note that our **Planning Commission** has yet to deal with the national productivity issues exclusively and come up with a viable long term plan.

Ladies & Gentlemen!

Let us examine how productivity growth transforms the economy.

In 1790, upward of 90 percent of the labour force in the US worked in agriculture.

In the year 2000, less than 1.4% of the labour force was so employed, still producing enough food for the US population as well as industrial exports.

Labour productivity rose in the US automobile industry during the 1920s. The cars registered in the country rose from 6.7 million in 1919 to 23.4 million in 1929.

Output per hour in the sectors of computing and telecommunication equipment has soared recently. Prices of these goods have plummeted. Similar is the case in solar systems. Output per hour can rise through the discovery and application of new technologies.

It has been observed that Information and Communications Technology had a strong impact on the growth of productivity in some of the Asian countries. The impact of new technologies in the productive system has brought out substantial transformation of the economy of the developing countries.

Construction industry absorbs a substantial number of workforce. The cost of construction can come down with a sustained effort of productivity enhancement.

In the Total Factor Productivity (TFP), Energy occupies a prominent position. Energy is used for the generation of electricity, heat and support of transportation. Enhancement in the productivity of Energy generation and utilization can bring about a significant improvement in the productivity of all sectors of the economy. Share of renewable or regenerative energy in the total energy production will have a positive effect in the energy productivity.

There is a lot of scope in the productivity improvement in the services sector. Needful use of information technology can streamline the creative, storage and retrieval of medical records. As a result productivity in the health sector may substantially improve.

Capital deepening occurs when the ratio of physical capital to labour hours rises. If the economy saves and invests more of its current output such that the physical capital stock rises more rapidly than the number of sums employed, output per hour should rise.

The Australian Bureau of Statistics (ABS) notes that:

“Key to long term improvements in Australia’s standards is productivity growth and therefore enhancing national productivity is one of the basic goals of economic policy”.

The ABS official productivity measure is derived from statistics compiled on the basis of the standard growth accounting framework, which is widely adopted by leading statistical agencies and recommended by the OECD.

The market sector comprises the following 16 industries:

1. Agriculture, forestry, and fishing
2. Mining
3. Manufacturing
4. Electricity, gas water and waste services
5. Construction
6. Wholesale trade
7. Retail trade
8. Accommodation and food security
9. Transport, postal and warehousing
10. Information media and telecommunication
11. Financial and Insurance services
12. Rental, living and real estate services
13. Professional, scientific and technical services

14. Administration and support services

15. Arts and recreation services

16. Other services

Ladies & Gentlemen!

We express our sincere gratitude to the learned speakers who readily accepted our invitation to deal with the national productivity spectrum.

We hope you will certainly enjoy their presentations. They will be available to answer your questions.

Thank you.