

# Low R&D expenditure hinders innovation and development

## A sad day for freedom of speech Passage of a draconian bill

It is regrettable that the Digital Security Bill has been enacted into law in spite of the objections from all concerned. The bill effectively curtails the freedom of speech and thus the very fundamentals on which democracy is built. If a law is meant to deliver greater good to the greater mass than the new Act, we are afraid, cannot pass the test.

We had made a last-ditch effort a few days ago in this very column to persuade the government not to pass the Bill without the suggested changes. But, deplorably, it was passed keeping the most stringent and anti-democratic provisions intact, riding roughshod over the sentiments of the editors and journalists and personalities belonging to various segments of the media.

There are two issues that are seemingly conflicting. One, the matter of cyberspace and the security associated with it. The other is the media, the existence and effective functioning of which depends on the degree of freedom of speech and freedom to opine on issues of national import, which is an index of a nation's progress. The Act, unfortunately, gives gross arbitrary powers to the agencies, like arrest without warrant and seizure, which threatens these very freedoms.

Technological applications are prone to exploitation and misuse, to the detriment of national interest and security, and appropriate measures must be in place to prevent that. But in order to curb crimes in the digital platform, the very basic human right of free speech and the freedom of the media have been curtailed.

It is a sad day for the country to see the parliament enact the much-dreaded Digital Security Bill into a law disregarding the genuine concerns.

## Why the rush for EVMs?

The EC should earn people's trust first

We are surprised that the Executive Committee of the National Economic Council (ECNEC) has so expeditiously approved tens of billions of taka to purchase thousands of EVMs (Electronic Voting Machines) that are planned to be used in the next election due to be held in 2024. It makes little sense because the next election is over five years away.

There's widespread skepticism—and rightly so—among stakeholders as far as EVM is concerned. The opposition parties have already made it clear that they are opposed to the idea of using EVMs in the upcoming election. In fact, there's opposition within the commission itself. Even the prime minister opined that there should not be any rush in this regard. Only a few countries in the world use electronic voting machines. Even then, there is a debate as to how secure and reliable they are.

It's still uncertain whether the EVMs could be used in 2024. The priority for the election commission should be to ensure that the upcoming general election is held in a free and fair manner and that all eligible political parties partake in the election. Therefore, the EC would be well-advised to concentrate on the upcoming election instead of spearheading the procurement of EVMs which might just prove to be a massive waste of taxpayers' money.

The EC should do more research, hold trials, and seek opinion of independent experts on EVMs. If it's still convinced that these machines are reliable, it can take steps to convince major political parties. Should they agree, the authorities may then start the process to procure EVMs.



MD ARFANUZZAMAN

ACCORDING to the recent Global Innovation Index 2018, published annually by Cornell University and the World Intellectual Property Organisation (WIPO), Switzerland is ranked as the world's most innovative country while Bangladesh ranked 116th, the lowest in South Asia. Amazingly, Switzerland holds this prestigious position unremittably since 2011 and its capacity for innovation and the quality of its scientific research institutions are just two of the leading factors that have enabled this small alpine country to seize this peak position in the world. The performance of Bangladesh in research and innovation is found to be far lower than many LDCs and other comparable countries which is truly undesirable at a time when the country is about to graduate from an LDC and also experiencing a high growth momentum. Research and innovation are considered the warranted drivers of business and economic growth as well as social transformation. It therefore bears immense significance in both the near term and long term regardless of the size, location and condition of the country.

The SCImago Lab is one of the leading organisations which ranks the academic and research institutions of the world based on the three different sets of indicators such as research performance, innovation outputs and societal impact. In Bangladesh, only 13 ranked institutions can be found in the 2018 raking repository of SCImago Lab where above 90 percent are educational institutions. Whereas, India, Iran, Egypt, Pakistan, Saudi Arabia, and Indonesia have 271, 126, 36, 35, 25, and 19 ranked institutions respectively. During 1996-2017 Bangladeshi scientists published 38,897 citable scientific documents in referred international journals which include research articles, reviews and conference papers. During the same time, Nigeria published 71,046, Indonesia 72,146, Pakistan 1,21,836, Saudi Arabia 1,48,836, and Hong Kong 2,45,629 scientific papers in international peer-reviewed journals. The amount of scientific papers our

neighbouring country India published during 1996-2017 is a thousand times higher than ours.

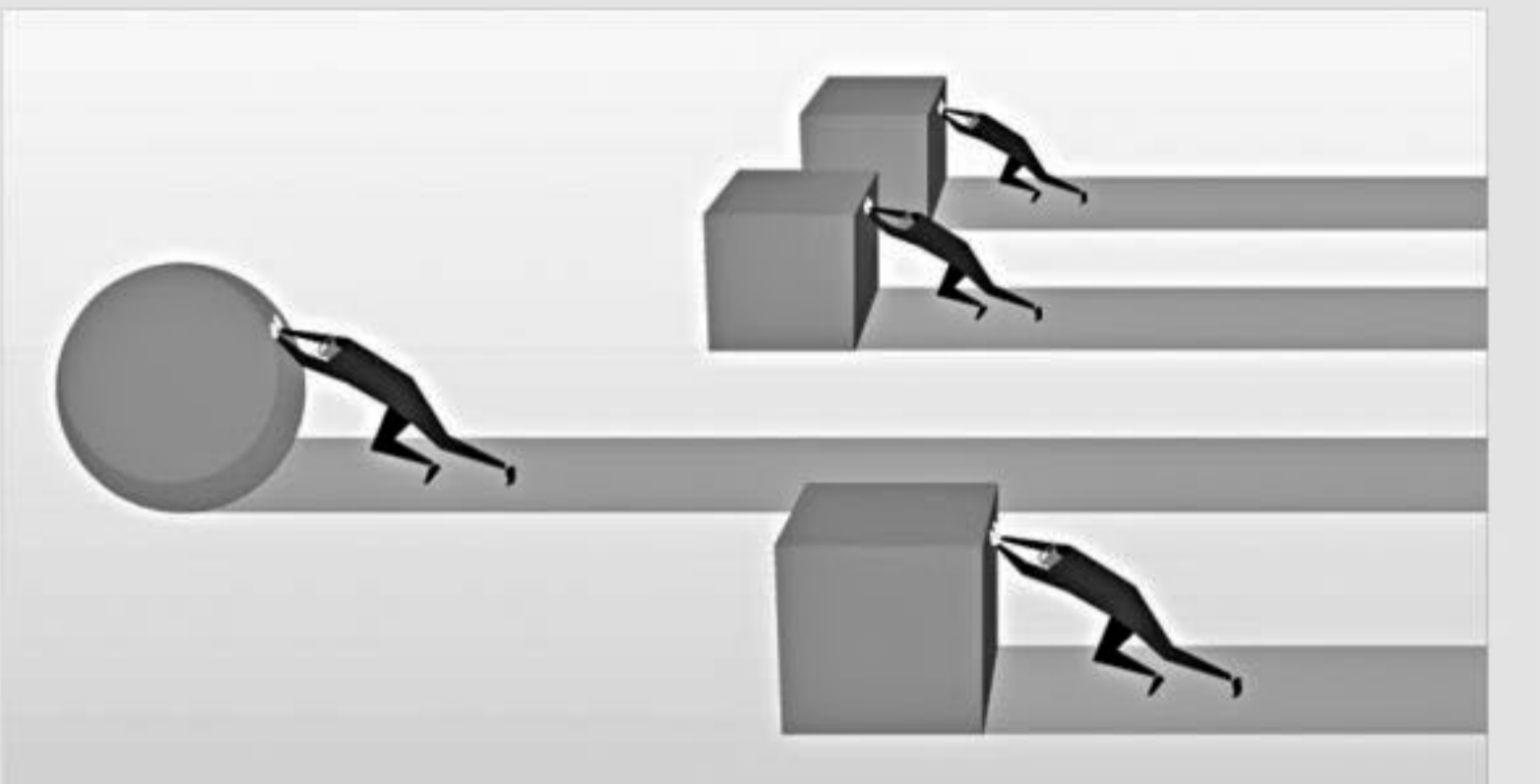
Now the question is why Bangladesh's performance is so poor in having ranked research organisations and scientific publications compared to other countries. The answer is obviously the lack of quality and capacity of research, researchers and the institutions. Our educational quality is not satisfactory and far below the global standard where no higher educational institute can be found in the global rank. The government extended its support for the quantitative expansion of education in the last couple of years but very little effort was given on quality assurance and research facilities at the universities. This has an adverse impact on the country's research and innovation outcome. In addition, lots of studies are carried out in

2008. Since 2016, the total scientific publications of Bangladesh appeared 1000 per year in the international peer-reviewed journals. Though, it is very slow progress compared to similar nations, this significant achievement has remained unnoticed and under-promoted. This achievement clearly indicates the existence of a vibrant and international-standard scientific community within Bangladesh which includes scientists, researchers, academicians and development practitioners. To increase the flow of research-based knowledge generation, dissemination and innovation, they require sufficient resources and modern infrastructure which remains undetected by the government. Rather, it can be seen that knowledge and evidence generated by the scientific community often did not get proper

2015, Israel, Korea, Japan, Sweden and Austria spent 4.27, 4.23, 3.28, 3.26 and 3.07 percent of their GDP on R&D respectively. According to the Economic Survey of India, East Asian countries like China, Japan and Korea have seen dramatic increases in R&D expenditure as a percentage of GDP as they have become richer. But, even our private sector is also very reluctant to spend on R&D activities compared to the neighbours. During 2003-2016, India's automobile giant Mahindra and Mahindra's (M&M) R&D expenditure had jumped by 26 times, while its revenue increased by 10. In 2002, M&M invested one percent of its revenue in R&D and it increased to 4.5 percent in 2016.

As Bangladesh already satisfies the criteria of LDC graduation and can seize the lower-middle-income country status,

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Bangladesh each year by different think tanks, NGOs and universities but most of them remain unpublished in referred scientific journals due to not fulfilling the minimum research standard and publication criteria. Thus a large number of them are found to be published in the non-indexed and non-referred journals which are deemed neither scientific nor citable.

The average citation of per paper published by Bangladeshi authors during 1996-2017 is 8.85, which is surprisingly higher than Malaysia, Iran, Russia, Indonesia, India and even China. Though the figure of per paper citation is somewhat impressive, it usually happens where there is a lower number of citable papers. Before 2006, the scientific community of Bangladesh published less than 400 research papers per year in referred journals which crossed 500 in

attention and appreciation by the policymakers. If we want to increase our knowledge base and innovation footprint compared with other developing and emerging economies, the scientific community must be promoted and ample research facilities need to be provided through the allocation of public and private budgets. This will produce more capable scientists, researchers and academicians, who can create the ground for a developed and prosperous Bangladesh and transform the country into a scientifically rich and innovative nation.

Surprisingly, the reality is that, the government has not been able to come up with adequate R&D spending since our independence. Israel, Korea, Japan, Sweden and Austria are the top five countries in terms of R&D spending. In

innovation outputs are essential to accelerate the growth and prosperity pathway. Innovation will not come automatically; demand-driven research and testing the ideas for demonstration are essential. Since the country has started growing as a lower-middle-income country, the accessible research funds for low income countries will no longer be available for Bangladesh for which we have to be prepared. Bangladesh obviously needs to intensify its efforts to improve R&D leading by at least 1.5 percent of the GDP on R&D. A separate allocation for the R&D in the national budget is highly desirable at this juncture of Bangladesh's development.

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# Another global financial crisis for developing countries?

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GEORGE Soros, Bill Gates and other pundits have been predicting another financial crisis. In their recent book, *Revolution Required: The Ticking Bombs of the G7 Model*, Peter Dittus and Herve Hamoun, former senior officials of the Bank of International Settlements, warned of "ticking time bombs" in the global financial system waiting to explode, mainly due to the policies of major developed countries.

Recent events vindicate such fears. Many emerging market currencies have come under considerable pressure, with the Indonesian rupiah, Indian rupee and South African rand all struggling since early this year. Brazil's real fell sharply in June, and Argentina has failed to stabilise its peso despite seeking IMF aid. As Turkey struggles to stabilise its lira, many European banks' exposure has heightened fears of another global financial crisis.

**Why the vulnerability?**  
 Some fundamental weaknesses are at the core of this vulnerability. These include the international financial "non-system" since the collapse of the Bretton Woods system in 1971, and continuing to use the US dollar as the main international reserve currency.

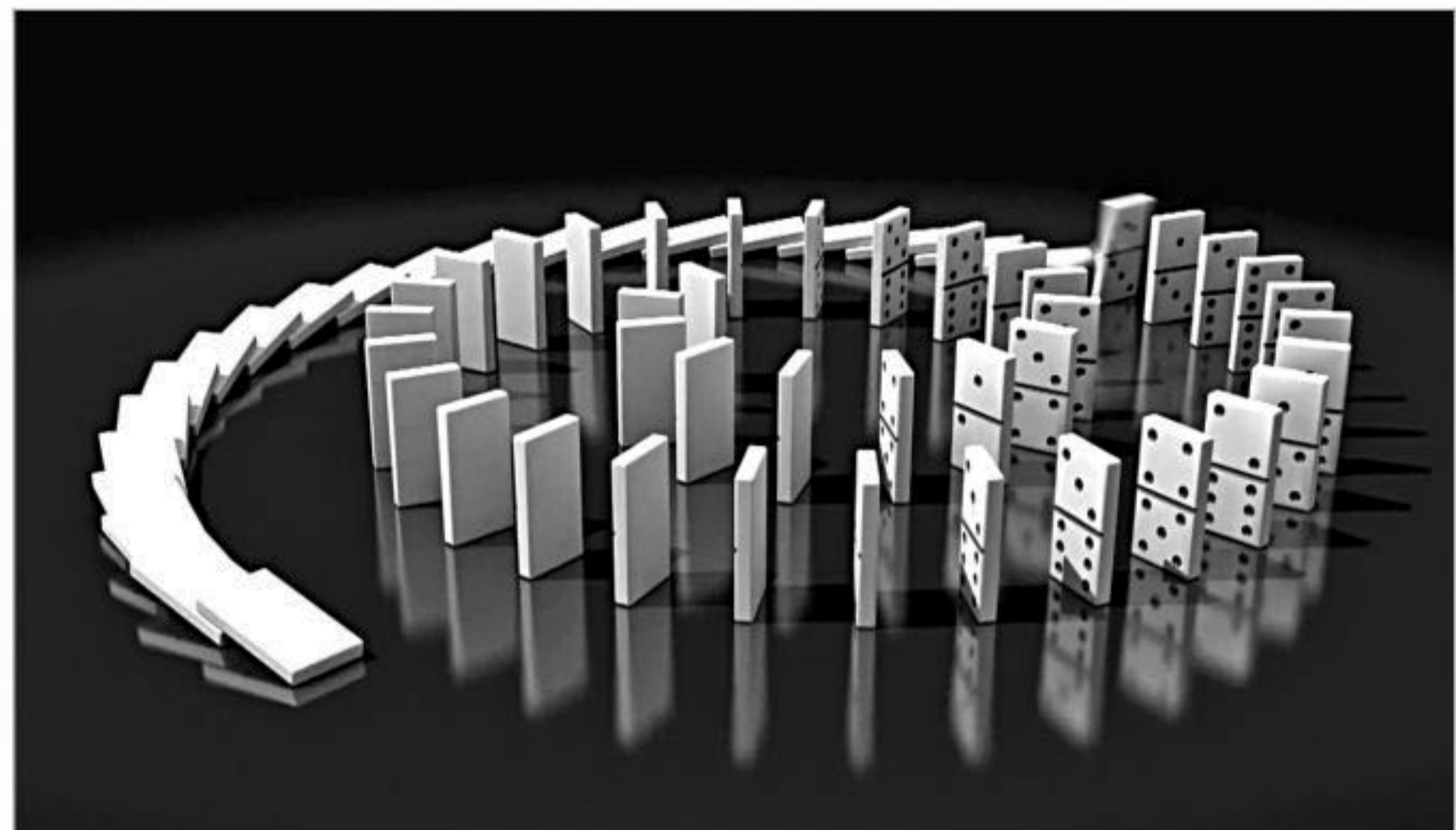
This burdens deficit countries vis-à-vis surplus countries and ensures near-universal vulnerability to US monetary policy. Thus, most countries accumulate dollars as a precaution, i.e., for "protection", eschewing other options, such as investing in socially desirable projects.

Policy makers not only failed to address these weaknesses following the 2008-2009 global financial crisis (GFC), but also compounded other problems. Having eschewed stronger, more sustained fiscal policy interventions, monetary policy virtually became the sole policy instrument. Major central banks, led by the US Federal Reserve, embarked on "unconventional monetary policies", pushing real interest rates down, even into negative territory.

Emerging and developing economies (EDEs) offering higher returns temporarily experienced large short-term capital inflows. The external debt of

emerging market economies has grown to over USD 40 trillion since the GFC. The combined debt of 26 large emerging markets rose from 148 percent of gross domestic product (GDP) at the end of 2008 to 211 percent in September 2017, according to the Institute of International Finance (IIF).

Easy money raised household and corporate debt, fuelling property and financial asset price bubbles. According to the International Monetary Fund (IMF) April 2018 Fiscal Monitor, global debt peaked at USD 164 trillion in 2016, or 225 percent of global GDP, compared to 125 percent before the GFC. The IIF reported that global debt rose to over



USD 247 trillion in early 2018, i.e., equivalent to 318 percent of GDP.

Rising debt levels pose serious downside risks for the global economy. With easy money coming to an end, as the Fed continues to "normalise" monetary policy by raising the policy interest rate, capital flight to the US is undermining emerging market currencies. When debt defaults increase with interest rates while income growth remains subdued, the world becomes more vulnerable to financial crisis.

**Diminished capacities**  
 Both developed and developing countries have less policy space than during the GFC. Most governments are saddled with more debt following massive financial bail outs followed by abandonment of efforts to sustain robust recovery.

According to the IMF's April 2018

Fiscal Monitor, average public debt of advanced economies was 105 percent of GDP in 2017, constraining fiscal capacity to respond to crisis. Meanwhile, monetary policy options are exhausted after a decade of "unconventional" monetary policies.

General government debt-to-GDP ratios in emerging market and middle-income economies almost reached 50 percent in 2017—a level only seen during the 1980s' debt crisis. The 2017 ratio exceeded 40 percent in low-income developing countries, climbing by more than ten percentage points since 2012.

Playing With Fire by Yilmaz Akyuz, former South Centre chief economist,

around 24 percent of global GDP, the global investment rate remains below the pre-crisis level of around 27 percent, with investment rates in EDEs either declining or stagnant since 2010.

Failure to address the falling wages' share of GDP, rising executive pay and asset price bubbles, due to "easy" monetary policy, have continued to worsen growing income inequality and wealth concentration. Meanwhile, deep cuts in government spending and public services, while reducing top tax rates, cause anger and resentment, often blamed on "the other", contributing to the spread of "ethno-populism". In turn, growing inequality limits aggregate demand, which has been maintained by unsustainably raising household debt, i.e., perverse "financial inclusion".

**Perfect storm?**  
 Turbulence in currency markets is due to developing countries' limited economic policy space. A decade after the GFC, developing countries still experience lower growth and investment rates.

Financial sectors of emerging market economies now have more and deeper links with international financial markets, also reflected in high foreign ownership of stocks and government bonds, with large sudden capital outflows causing financial crises.

Meanwhile, recent commodity price drops have accelerated the rising indebtedness of low-income countries. According to the IMF, 24 out of 60 (40 percent) are now either already facing debt crises or are highly vulnerable—twice as many as five years ago, with a few already seeking Fund bail-outs.

The problem is compounded by declining concessional aid from OECD countries. Also, more creditors are not part of the Paris Club, obliged to deal with sovereign debt on less onerous terms. Meanwhile, growing trade and currency conflicts are worsening the woes of those already worse-off.

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## LETTERS TO THE EDITOR

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### The fourth estate in peril

The press is called the fourth estate of a democracy. "Were it left to me to decide whether we should have a government without newspapers, or newspapers without a government, I should not hesitate a moment to prefer the latter," said Thomas Jefferson, the third president of the United States, highlighting the importance of the press.

The press carries divergent opinion and views that reflect that of the population in a whole. It is the character of democracy that people with different views will coexist peacefully. In a democracy you do not punish dissent. Unfortunately, that is exactly what has happened in our country for quite some time. With the Digital Security Bill passed in the parliament defying the concerns of the editors, freedom of press and expression will be further curtailed.

Md. Zillur Rahaman

By e-mail

### Combating river erosion

The Daily Star published a story titled "Erosion in Naria" on September 18, showing the devastating state of Naria Upazila due to the worsening river erosion of Padma. A recent NASA report reveals that the mighty Padma has devoured more than 66,000 hectares of land since 1967.

It is time the government took necessary actions including dredging of the river and rehabilitation of the affected people. We appreciate that Prime Minister Sheikh Hasina has expressed regrets at the inaction of the ministers to address the crisis. A long-term national plan should be undertaken to save riverine areas.

Shafkat Rahman

By e-mail