Essay

Domestic Knowledge Product: Enhancing Wealth, Welfare and National Security

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The recent decision by the Chief Statistician of India(CSI), Ministry of Statistics and Programme Implementation (MoSPI), taken at the end of a workshop on February 13, 2019 to calculate the Gross Domestic Knowledge Product (GDKP) for India, opens up important operational scenarios and implications, some of which relate to national security. The GDKP is in principle a new statistical calculation, which tends to measure the wealth of a country not only in *material* products and connected services produced, but also more fundamentally, the nation's wealth in the most important raw material -- knowledge. Knowledge is anthropic production that can move all other forms of production and collection of raw material. In a way it is the basis of all material production.

Knowledge has always been recognised as a fundamental element of the country's wealth, but attempts to quantify it in the same way as material wealth (GDP) have never been made. The definition of knowledge and the quantification of the value of knowledge, have prevented any attempt in this direction. But the dissatisfaction with the use of GDP has led to the search for alternative solutions. With the crisis of reliability of the GDP in terms of finance and future projections, various attempts have been made to substitute GDP index, with the production of various alternative indices, but none has been successful (Sarkozy-Stiglitz at OECD). The GDKP model adopted by the CSI –MoSPI for the world's first calculation of domestic knowledge product, provides the optimal solution for various theoretical issues and is operational both in the realm of economy and social welfare. It also has important implications for security.

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The main theoretical issues relate to:

A. The role that knowledge has as the engine in the development of modern economies;
B. The free circulation of knowledge on the web, which is now a matter of fact;
C. The rapid disappearance of nationalistic barriers in the circulation of knowledge on the web.

Many other **theoretical factors** could be cited but to maintain the focus on the model adopted by the CSI – MoSPI it is important to emphasise that *if the implications of the model are followed*, that could give India a unique international competitive force -- the irruption of a billion people on the web. The **operative reason** is linked to the structure of the model which does not aim at identifying a single number (like the GDP) but at the realization of two matrices and an index. The two matrices are:

1. Indian Domestic Knowledge Production ***(IKDP)***, which for the first time will represent India in terms of its wealth of knowledge (what knowledge is produced and by whom)
2. India Domestic Knowledge User (IKUP), which will represent India as a user of knowledge (what knowledge is used and by whom).

The model, together with the matrices, also provides *the index of cost of learning*, which is of enormous political relevance, divided between rural and urban areas, age groups, and employed and unemployed.

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It is not risky to say that the realisation by the MoSPI of these matrices will present the national, the States, and even local governments, the possibility of carrying out a much more rational budget linked to making public spending better in terms of increasing national wealth. In terms of economic theory, this is a historic step in deficit spending--moving away from uncontrolled public spending (Keynes M multiplier) to segmented and targeted public spending that produces the greatest increase in national wealth (K multiplier in individual sectors of the economy). In other words, GDKP appropriately used in relation to its matrix structure can become a powerful weapon for optimising the budget and providing an extraordinary push to the growth of the GDP beyond the limits

in place. As for the index of cost of learning, this represents a real milestone in social policies in connection with future developments that have the greatest economic potential for young people.

But the use of the two matrices is not limited to providing modern operational support to national and local governments and, in the way in which they are built, but also provide potential support for entrepreneurial decisions on capital , for individual investors to evaluate stock market prices, and finally to better formulation of international investment risk indexes. For some time now the critics of international rating systems based on the AAA, BBB, etc. (Moody's, Standard & Poor, Fitch), have been calling for improved alternatives. But even those attempted alternatives have not been successful. With a GDKP, a new Triple K index would become possible that would not replace the AAA but alongside it (as the GDKP does with the GDP) would correct its errors and offer a new vision of development.

Implications of the GDKP INDIA.

The *implications* are a fundamental part to consider in terms of GDKP. What we want to say here is that the GDKP model adopted by the MoSPI will not only lead to the knowledge of a datum, a number as important as the GDP, but will also provide a numerical structure to assist the Government, the capital market, and private investors to push GDP production higher. All this happens because the adoption of this model for the calculation of the GDKP offers structural tools that can help produce a notable amount of important decisions: in the budgeting sector, in the business sector, in the private investment sector etc. Of course, the implications are not automatic effects of the application of the model but they require special actions linked to the structure of the model to occur.

Among these implications there is also security. India has been for many years focused on the problems in its relationship with its bulky neighbour China. There is now a new medium-long term project shaping this relationship that relates to economic development linked to security – China's ambitious One Belt One Road plan. It is clear that beyond the enormous economic benefits that could be derived by Beijing from creating an international infrastructure network substantially for the shipment of goods produced in China, OBOR will also provide considerable competitive advantage to produce in that country. If the delivery time of goods can be reduced by several days, China can offset any labour cost increases and thereby realising an internal and external benefit. The tensions within society on account of low wages can be reduced by

increasing them, yet international competitiveness would be maintained because transportation time is reduced --an important component of the global cost. The OBOR is a plan with an evident strategic economic validity. Even if problems emerge, such as insufficient funds or the financial aspects become complex, they would not invalidate the strategic economic logic.

But there is another aspect of the OBOR that is relevant to India. And it is that of security. This is not only because the infrastructure controlled by China would go through territory that India believes to be its sovereign territory (access to Pakistan through Jammu and Kashmir), but also because the complex infrastructure network being created and managed by China is also a natural network of intelligence and functional diplomatic alliances. On the tracks, not only goods run on motorways, but alliances and common goodwill move between ports and airports. This does not mean of course that the OBOR must necessarily be seen with total hostility, but it may mean that it is logical to study hypotheses that present an Indian autonomous version of the integration between Asia, Europe, Africa and even America.

Knowledge and Security and 5KR.

For the construction of the aforementioned matrices, and the relative index of cost of learning, the GDKP INDIA model is based on a concept of what I call 5KR or the Fifth Knowledge Revolution of the modern era, which in turn presupposes:

- the existence of Knowledge in Cyber space, and
- the radical change of the concept of Knowledge

Cyber space is the virtual space frequented by billions of individuals who exchange information (affective, emotional, but also productive): the New Knowledge. To capture the essence of this new knowledge we must accept that knowledge has undergone a radical conceptual change. The radical change of the concept of knowledge is in the fact that today at an economic level this has become in the cyber space information built to be sold by everybody to everybody. The combination of these two elements Knowledge in Cyber space and modification in the concept of Knowledge has enormous economic implications as well as great implications in the security sector via GDKP.

Alternative to OBOR

Imagine building instead of physical infrastructures for the transportation of *physical goods* building physical infrastructure for the circulation of *intangible goods*. And in

particular an infrastructure or what is by far the most important merchandise in circulation today: Knowledge in the Cyber Space. To understand the importance of knowledge in Cyber space just look at the list of the five companies with the highest stock exchange value. Alphabet (Google), Amazon, Apple, Facebook, and Microsoft. None of these companies produces material objects, except Apple whose success also depends on the exceptional functionality of its software. All produce INFORMATION. Immediately following them are two Chinese companies *but no Indian companies*. This should ring already a security bell.

Question: how is it possible that despite the presence in the Cyber Space of 800 million Indians with a philosophical and religious tradition (the Vedas and Upanishads) in which enormous importance is given to knowledge, India has failed to produce a relevant presence in the modern knowledge economy? In my opinion the answer is two-fold:

1. The importance given to GDP has led to political and market attention being focused on material objects.
2. India has remained tied to a concept of ancient and traditional knowledge (always valid, of course) that in the context of 5KR is *deficient* in two critical aspects:

A. Today economic knowledge, that which produces national wealth, is produced by the masses;

B. Knowledge policies that accelerate the circulation of knowledge produce wealth.

The lack of development of India in the Cyber Space creates not only limits to economic growth and reduces the possibility of competition, but also causes significant security problems. There is no need to remind that a recent issue of *Foreign Affairs* was all about web warfare. Now it is evident that the GDKP having a matrix structure, and having been based on the Knowledge in Cyber Space, is able to focus in a visible concrete way public and private investments that allow wealth development of the market operators and therefore of the economy in general. But due to the characteristics of its modularity it offers an important opportunity for new safety horizons.

The GDKP model adopted by the CSI and MOSPI identifies an IS - GDKP INDIA, where IS stands for International Standard. But it also builds a National Digital Action (NDA) - GDKP India where Knowledge diffusers, multipliers and distributors in Cyber Space are quantified for the impact on the circulation of Knowledge. This is by far the most relevant aspect in terms of security as it gives a mass of thrust to the Indian

presence in the Knowledge in Cyber Space that until now has been lacking. One has to just see the absence of Indian companies in the top of the 10 richest companies in the stock exchange (in which the Chinese are present with two companies) to understand this.

NDA-GDKP INDIA, wealth and security based on the K&S model

In the construction of the GDKP INDIA model a fundamental contribution to the general model was made by the Indian economist Rajiv Kumar, the current Vice Chairman of NITI Ayog, who was the first to be convinced of the importance of the GDKP for India. Hence, the identity which constitutes the base of the NDA-GDKP INDIA should rightly be given the name K&S Model (Kumar & Sulpasso model). The theoretical key to the major strategic structural implication of GDKP is in identity KV = PQ, where K stands for Knowledge, V, circulation speed, P for price level and Q for production quantity. The K&S model highlights that, contrary to what happens in Fisher's Identity MV = PQ , the increase in the speed of circulation of money can and usually creates an inflation, as inflation creates the uncontrolled increase in monetary issues. The opposite is true in the K&S model. The more Knowledge is produced and the faster its speed of circulation, the greater is the wealth produced. Indeed, the price level, instead of rising in uncontrolled inflation, can even be reduced.

Special security opportunity

In line with the fundamental economic role of the increase of V in the K&S model to enhance the NDA-GDKP and increase the growth pressures on GDP, there is utility in creating a National Board of Digital Education that has among its fundamental tasks to "make the inventory of feasible Indian knowledge for economic exploitation in the Cyber Space". To accomplish this task, the potential best development system is to open the doors of the Indian digital knowledge system to all Indian knowledge items produced by the common people as well as by research institutions. The methods of carrying out this objective are obviously not the subject of illustration here, but can be signaled because they enter into the discourse "security". Imagine building a technological infrastructure for the circulation not only of the knowledge produced and registered in India, but also of that produced in the countries that are part of this infrastructure. It is, in terms of security, a large and functional response to the OBOR, which could provide extraordinary advantages for the participants because:

- it goes to the root of Cyber Space as it connects individuals and companies;
- it is immensely more productive, as it circulates more wealth from all sources;

- it establishes a wider network because it can easily reach Africa and America.

Greater economic wealth, the fight against illiteracy, more business opportunities for the country, thus become part of a very modern security project.

In conclusion, the GDKP model that was chosen by CSI and MOSPI not only opens up a serious path for the modernisation of the Indian economy, it also favours the increase of the GDP and for an epochal push to the reduction of illiteracy. It also offers important inputs to enhance the security of the country. This is worth exploring more carefully.