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Large-Scale Data Collection for Monitoring Effectiveness of Policies: Select Examples for the Social Sector in India

 In article  04:44 PM, Oct 06, 2020

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The Context

This column is motivated by the on-going Vaishwik Bharatiya Vaigyanik (VAIBHAV) Summit ¹. This Summit has received less than deserved attention and coverage. It is therefore worth describing its objectives briefly. As stated in the above website,

The VAIBHAV Summit is a collaborative initiative by Science and Technology (S & T) and Academic Organisations of India to enable deliberations on thought process, practices and R&D culture with a problem-solving approach for well-defined objectives.

The Summit aims to bring out the comprehensive roadmap to leverage the expertise and knowledge of global Indian researcher for solving emerging challenges. By bringing the Indian Overseas and Resident academicians/scientists together a structure of association will be evolved...the goal is to create an ecosystem of Knowledge and Innovation in the country through global outreach.

The virtual summit was inaugurated by Hon'ble Prime Minister on 2nd October'2020 in the virtual presence of registered academia and researchers from across the world. This will be followed by online month-long deliberation sessions starting from 3rd October to 30th October 2020 among researchers through webinar mode. Concluding session is planned on 7th November on Sir CV Raman Jayanti.

The above is one more evidence that the strategic concepts of Atmanirbhar Abhiyan, and Be-vocal-for-local' are outward looking concepts designed to make India more-self-confident, be conversant with accumulating knowledge, and technology, and pursue greater integration with the world.

On 3 October, one of the sessions in the Social Science vertical of the Summit was on "Large-Scale Data Collection for Monitoring Effectiveness of Policies". I was one of the panellists.

This column represents revised remarks made by me as a panellist.

Select Examples from India's Social Sector

There have been many initiatives in the social as well as other sectors which have generated large-scale data. But they remain underutilized for empirical evidence-based research, policy, and as a potential source of revenue. In the current challenging economic and fiscal environment, there is a critical need for expanding avenue for fiscal space.

Four Examples are briefly discussed. It is however urged that researchers not only elaborate on them, but also identify more such examples. Government services are provided by organizations. Therefore, in each case an organization should be identified with responsibility and accountability for managing large data bases, and making them accessible for policymakers and researchers.

1. **The Pension Sector:** India's National Pension System (NPS) is regulated by PFRDA (Pension Fund Regulatory Development Authority) and by the NPS Trust. PFRDA is the regulator ².

The Board of Trustees of the NPS Trust have the legal ownership of the trust and the funds. The Trust is responsible for the monitoring of the operational and service level functions under the National Pension System or any other pension scheme regulated under the PFRDA Act, 2013 ³.

Consideration is being given to separate the two organizations, which would be more consistent with global norms.

In less than decade and a half, various mandatory schemes (for central government employees, and employees of states who opt for it), and various voluntary pension schemes open to all, including Atal Pension Yojana (APY) ⁴.

There have been impressive levels of membership, and assets under management (AUM) of India's NPS as indicated below. The data are as of 31 August 2020 ⁵.

- The total membership was 13.7 million, not counting the 22 million Atal Pension Yojna (APY) members. As for Central and State employees NPS is mandatory, their combined

number will overtime approach around 25 million, from the current 7.0 million. The membership data base will continue to grow.

- The Assets Under Management (AUM) were INR 4.9 trillion (2.45% of GDP). Due to good pension design (such as minimum withdrawal till age 60; and very low administrative and investment management costs, and relatively superior returns, the AUM can be expected to grow rapidly.
- The composition of assets differs as compared to the composition of membership. Thus, Central and state government employees, which account for about one-fifth of the members, account for over four fifth of the assets. In contrast, APY and Swalamban Scheme account for 3.4% of assets but nearly three fourth of the members.

By any standards, the NPS constitutes a large data base, which must be organized for data analytics, and empirical research, with sound inputs to policymaking. The analytics could help assess the extent to which pension needs of different groups are met. It should be noted that a good pension system encourages retirement income to be obtained from multiple sources, not just one source.

PGRDA, NPS Trust, and NSDL (National Securities Depository Limited) are the three organizations involved in NPS data management ⁶. It is suggested that they could form a joint venture for organizing pension data in such away that it is feasible to undertake big-data mining and analytics by NPS, PFRDA, and researchers relating to pension scheme design, behaviour within each scheme, and the extent to which pension objectives are met.

There is another large retirement fund, primarily for private sector workers, but also for employees of some public enterprises. The EPFO (Employees' Provident Fund Organization), established in 1952. As of 2018, its assets under management were INR 11 trillion, equivalent to around 6% of GDP⁷.

The EPFO is reported to have 50 million active members as of early 2018, equivalent to 9.6% of the labour force of 520 million. Its total membership is much larger due to inactive accounts. But EPFO's relative lack of past investment in digital-based data management and reporting systems makes it difficult to undertake empirical evidence-based research, and assist policymakers.

The data base of the EPFO is large, and needs to be subjected to modern data management methods for better policy formulation and implementation.

The EPFO does not have the expertise, this a separate company would need to be formed for EPFO data management.

For better national level pension and social protection policies and their implementation at the centre and in the states, establishing a multidisciplinary National Retirement Behaviour Research Centre merits urgent consideration.

2. **Aayushman Bharat:** This health insurance scheme for hospitalization, is among the largest such schemes covering 100 million households (500 million people assuming each household has five members). There are indications that the scheme will be further expanded.

The data generated by the Ayushman Bharat needs to be appropriately organized, and made available for data analytics, designating appropriate agencies who are accountable.

The data management of Ayushman Bharat presents a good opportunity to monetize it (after appropriate privacy and other safeguards), and thereby can help partially fund the health sector initiatives.

The COVID-19 pandemic has made Indian policymakers realize that a well-functioning health system, involving public and private health, and preventive and curative care, is an economic and national security priority.

3. **Pradhan Mantri Ujjwala Yojana (PMUY)** was launched on 1 May 2016. It aims to provide cleaner cooking fuel, such as LPG, instead of firewood, cow dung, and other fuels, to reduce indoor pollution.

The benefits of PMUY comprise improved health of women and children, potential income generating opportunities due to two to three hours saved daily in fetching cooking material, and reduction in CO2 emission

These benefits need to be supported by empirical evidence through using data analytics relating to the Ujjwala data.

As of early October 2020, 80 .3 million LPG connections have been provided to low income households⁸.

This constitutes a huge data base. If properly organized, and if data analytics tools are applied, it can be an important source for empirical evidence-based research.

The Ministry of Petroleum and Natural Gas and the public sector oil marketing companies have created a data base for tracking applications under the scheme. Each oil marketing system has a separate system for tracking⁹.

This is a commendable initiative. However, these data bases need to be extended to assess the socio-economic and health impact of the scheme. This is a major challenge, but addressing it will help improve design and implantation.

4. In agricultural sector reforms, **NABARD (National Bank for Agriculture and Rural Development)**, set up in 1982, has the responsibility to act as development. In transformative reforms of Agriculture, NABARD has been given key responsibility, including developing and providing credit and other support to FPOs (Farmer Producer Organizations) India aims to develop 10,000 such FPOs.

As Asher has argued, NABARD as an organization will need to restructure and develop capacities to build large data base on behaviour of farmers, and other stakeholders, and make data accessible for data analytics, and for measuring effectiveness

of new agriculture initiatives. In this, it can collaborate with SBI's (State Bank of India) app called SBI YONO¹⁰.

Concluding Observations

India has been making steady perceptible improvement in extending the reach of digital economy. But there is ample scope for further progress, hopefully at an accelerated pace. India ranked 44 out of 63 countries in IMD World Digital competitiveness ranking 2020¹¹.

This column has highlighted some of the areas where there are large data-sets in the social sector. But these are currently not being organized to facilitate data analytics, encourage empirical-evidence based research, and to improve policies and implementation.

A rigorous empirical evidence- based research could help raise profile of Indian academics and researchers in the social sector globally.

The above are examples, many more such data-sets exist in social and other sectors (e.g. for MSMEs, micro, small, and medium enterprises).

It is strongly urged that policymakers assign responsibility and accountability to the relevant organizations to facilitate large scale data organization with a view to facilitating data analytics, and encourage empirical-evidence based research.

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