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Skill-biased technology and their implications in India

Is wage inequality due to government's failure to provide quality education refraining the Indian economy? Studies show that the widened gaps in wages and unemployment rates are strongly observed now in both developed and developing economies due to access to technology. According to various sources the demand for skilled (as against unskilled) labour has increased relative to their supply in recent time. The supply of skilled labour can broadly be divided into two groups: those that assume that skill-biased technological change is exogenous versus those that are based on the assumption that the adoption of skill-biased or unskilled-biased technologies is endogenous. The overwhelming majority of studies belong to the first group and have argued that skill-biased technological change have played a central role on the increased inequality in the incomes of skilled workers as well as countering the slowdown in productivity.

Why do they happen? Nobel-winning economist Simon Kuznets showed in his path-breaking work that economic inequality first increases and then declines as an economy moves down the path of development, resulting in the so called "inverted U curve". His study revealed that developing countries tend to possess higher degrees of inequality than their developed counterparts. However, one must keep the mechanisms and linkages that are responsible for this "inverted U curve". Experts' argue that the decline in the later stages may be due to the effective governance such as creation of ecosystem for quality education. In the process this may cause both higher output and labour productivity.

This process is far from complete; technology should not be considered as fixed and most newer technologies entering the market through newer products and processes are skill-biased in the sense that they use skilled workers more intensively than the older technology. Experts' have found that adoption of



new technology is conditioned by the relative supply of skilled workers in a specific region-regions having a higher supply are likely to be quicker in new technology adoption. Likewise, while the real wages of skilled workers are expected to increase as new skill-biased technology is adopted, the wages of unskilled workers may either remain unaffected or even fall. The issue of supply of skilled labour has, therefore, become an area of immense interest largely because of the rising inequality in the relative wages of skilled and unskilled labour. So, if there is a rise of protectionism in developed economies blame the structural shift of labour that leads to wage inequality not the people of the concerned economy.

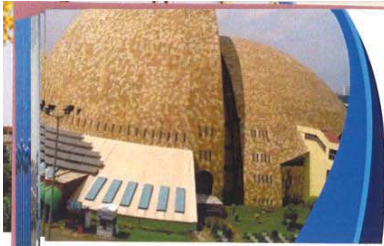
One may go further deeper into it. Take rural India into consideration. Assume that the government has decided to supply toolkits to the rural artisans. In an ideal condition two categories of skilled population in the rural areas may be available; one with toolkits and the others are with out toolkits. Consider the distribution of toolkits by the state governments is biased. The underlying forces of demand and supply of skilled labours may explain by the toolkits technology supplied to them. In such a situation the relative demand for artisans with toolkits become more attractive. As a consequence, equilibrium wage inequality increases. This may be considered as an equilibrium outcome in the skill category in a rural market setting. The inequality may disperse as more and more poor take advantage of the intervention.

How to create access to skill education? Take the case of Singapore. It is often argued that Singapore's acclaimed skills development system may be considered an example of a concerted national and integrated effort, given its multilevel focus and private

sector collaboration. It is successful because it is linked to other national policies (for example, economic development, and technology transfer), and various institutions appear to work together. The Ministry of Trade and Industry (MTI) played a key role for broad economic development policies. Likewise, a range of semi-autonomous agencies played an active role.

Since independence we have full-fledged Ministry of Human Resource Development (MoHRD). Have they delivered? The outcomes are pathetic although the government is largely responsible for providing education, right from basic to higher education. In the higher education sector it has many powerful arms such as IIT council, AICTE and recently formed IIM council. Sadly, they are unknown to the top 300 globally competitive higher educational Institutions. There are many distortions at the policy level such as wrong people in the leadership role because of their political connections, poor research culture, internal politics, mediocre Ph. D. research and so on. In most of the higher education institutions, faculty positions are vacant because on internal barriers are created by a group faculty members. They feel a possible potential recruit member is a threat to them. As regards academic journals are concerned, except a few most of them are not global standard.

Are the government Institutions able to relinquished their responsibilities? Most of them are busy in defending their own interest in a highly protected market. The present government has taken some initiatives to focus them. Some achievements are visible now in the light of research quality, teaching pedagogy etc. It is in this context to be mention here that National Institute Ranking Framework (NIRF)



Articles

made some contributions in order to improve such quality. In recent time, it appears that this framework has become a vehicle to bury the inefficiencies which has been prevailing historically in this sector. For example, the parameters chosen for this framework such as so called social inclusiveness, arbitrary selecting the samples in the name of perceptions are flawed. Many high quality institutions in the higher education sector has already paid price for this flawed methodology.

The private higher educational institutions are no better. In leadership role most of them are on contract because of their age. They are unable to take challenge in the new environment. Many reputed private institutes in India are now near to collapse because the persons responsible for management are also too weak to choose the right people. In some cases Vice Chancellors are selected by incompetent people. Then we have AICTE. In general they have negative perceptions about the stand-alone higher educational Institutions. In decision making process, their understanding in designing courses, regulations are inappropriate because the people chosen for these purpose are totally disconnected from industry.

Interestingly, performances of few stand-alone institutions in the Indian context are quite exemplary. Regretfully, they are ignored in many important decision making. It is often argued a few experts from private sector Institutions would have been chosen based on three year based National Institute Ranking framework (NIRF).

The recent IIM bill is an important dimension to facilitate internal competition in the higher education sector. The environment cannot be taken as static any more. Long-term forecasts and plans need more frequent revisions. GATS (General Agreement on Trade in Services in education), on the other hand, provides new challenges and opportunities requiring a totally different worldview. Can the government sector based education system compete in that scenario? If immediate action is not taken in a concerted, purposeful and proactive manner, there may be a sense of missed opportunities.

It would be unrealistic to think that any one particular policy would fix deeply entrenched inequalities - of which educational inequality is one manifestation. One can not deny that some select higher educational institutions in private sector are historically playing a proactive role in this context. This is a reality. It is to be noted here Government can't alone resolve the problem of inequality that has accumulated over the years.

At the global level the picture is that involving the private sector can improve performances in universities / colleges through competition, accountability and autonomy as well as expand access. Moving forward, each sector has a lot to learn from others. Keeping a watch on the international picture, benchmarking education policies across countries, will be important for raising standards and addressing inequality.