Understanding Coordination Failure: A Reason for Underdevelopment

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Abstract

Coordination failure is a sophisticated problem that arise in many organizations and thus in many countries especially less developing. There are often complementarities between members' choices, and these complementarities can lead to multiple stable outcomes. Organizations may be successful in coordinating on a good outcome, or they may become trapped in an inefficient situation even though better outcomes are also potentially stable. The process of development has always been the top priority of governments of several developing and developed countries for which there were many more models of development has been well explained in a meaningful manner. Some of the useful model among them are Malthusian population theory, Rodan's big push, Lewis and Nurksey theory of surplus labour with the concept of dualistic development, Harrod Domer model of steady growth rate, Harris Todaro model of migration, leibenestien model of critical minimum effort etc. But the most sound model in the field of development economics was the Malthusian population theory' {1798} in which he made direct prediction that population growth will only lead to continual poverty as growth in food production will always be slower than population growth. This model was important because it gives the meaning of scarcity which is declared to be mother of economics. By this vary word developing economies are forced to choose only that resource which is abundant in their country say labour in order to achieve the development. Before the advent of 1970's, nearly all economic growth models concluded on savings and investments as an important driving force of economic development. There are several major failings with savings driven growth models. Thus the paper aims at making a growth-driven direction for under developed economy by the removal of several hindrances among which coordination failure is the top of the most. Also the paper deals with the changing role of organizational behavior with dynamic leadership.

Keywords

Productivity, Happiness at work, Emotional system (Limbic system), Neurotransmitters, and Happy hormones.

1. Introduction

The process of development had always been the top priority of governments of several developing and developed countries for which there were many more models of development, has been well explained in a meaningful manner. Some of the useful models among them are Malthusian population theory, Rodan's big push, Lewis and Nurksey theory of surplus labour with the concept of dualistic development, Harrod-Domer's model of steady growth rate, Harris-Todaro model of migration, Leibenestien model of critical minimum effort, etc.

But the most sound model in the field of Development Economics was the Malthusian population theory' {1798}. Where he stated a direct forecast about population growth that will only lead to continual poverty because income growth or growth of food grain production is always slower than population growth. This model was important because it gives the meaning of scarcity which is declared to be the mother of economics.

By this vary word developing economies are forced to choose only that resource which is abundant in their country say labour in order to achieve the development. Before the advent of 1970's, mostly all the growth models were leading the same conclusion that saving and investments are the major growth drivers for any economy but actually this has happened in the case of developed countries only. Thus it is rightly acclaimed that these models will fit the developed world.

However, the situation within less developed countries is quite different. Most of these developing countries are not endowed with significant natural resources or infrastructure for technology and innovations. But these countries are extremely doing better as much as they can do because they have learned many things via learning by doing. In fact, these countries are well attracting foreign capital in several forms that work as a lifeline or good cholesterol for development. Reviewing all these the most problematic thing is to keep the equilibrium among resources allocated in different sectors of the economy and to remove the negativity of autogenous factors such as market failures. This is however said to retain the coordination among firms' productivity, factors, resources, etc., therefore a deep microeconomic intervention is needed. In fact, earlier these interventions are driven by outward-oriented development strategies, export promotion, intensive programmes for small and medium enterprises, attracting foreign investments, etc. These programs were deeply supported by various international institutions like IMF/IBRD etc. But these kinds of supports are biased in some or other way and almost against the developing world in general and the Indian economy in particular. Thus another kind of hurdle is seen in the form of coordination failure.

2. Objective of the Study

The paper explores the understanding of coordination failure and its impact upon the economy as well the paper serves upon the remedies by which the coordination problems can be removed.

3. The Concept of Coordination Failure

Under the concept of coordination failure price setters in the market and firms fail to coordinate between themselves. Later Rodrik (2004) and Rodriguez-Clare (2005) came up with an excellent explanation for this kind of market failure. Rodriguez-Clare pointed out that the success or failure of an action depends on the context in which it is undertaken: “A firm's productivity is not only dependent on its own hard work, abilities, and on general economic conditions (e.g., the macroeconomic setting and the lawful system), but also on the similar actions of other firms, infrastructure, directives, and other public goods”. In such a case, different agents' actions are said to be “complements”. Hence, it can be said that the absence of complementarities in an economic arrangement results in coordination failure.

Due to thick market effects, internal economies of scale, knowledge spillovers, including other problems of non-excludability, the provision of these inputs and services are plagued by market failures. Ample reviews explored these market failures that often lead to multiple equilibria i.e. the combination of good and bad equilibrium. If complementarities are present, a discourse taken by one firm, worker, organisation, or administration increase the incentives for other agents to take parallel actions. In particular, it can be said that these complementarities often involve investments whose over returns that sometimes solely depend upon other investments being made by other agents. In other words, coordination failure occur when a group of firms are capable of attaining more advantageous equilibrium but fail , because they are unable to harmonize their decision-making. Thus decision making is now a day gaining its momentum and its absence can give rise to coordination failure. The concept is opposing to classical economists where they and their gradual post followers, Singer, W. Arthur Lewis , Nurkse, Prebish, Hirshman, and Leibenstein, etc. Rosenstein Rodan pointed economic growth as a synchronized process that only requires the methodical reallocation of factors of production from a low-productivity, decreasing returns, traditional technology mostly primary sector to a high-productivity, increasing returns modern technology, and most industrial sector. But, later on the neo-classical development economists assumed that there are few institutional and technological impediments to the mandatory resource-reallocation. That is and generally hindered by economic rigidities, which are both technological and institutional in nature. Investment lumpiness, inadequate infrastructure, imperfect prudence, and absent or missing market with asymmetric information are the major restraint for smooth resource transfers among sectors which hampers individual profit maximization and thus causes “underdevelopment”. And this nature of under development leads to coordination failure that would cause a country into the poverty trap. The poverty trap is not the new concept as a hurdle of underdevelopment. But almost all the theories of development have been given to remove this hurdle by the heavy chunk of investment. Most famously, Rosenstein-Rodan (1943) argued that investments done by a single firm are the effect of the simultaneous investments done by others. In other words, the higher investment gives rise to an increase in cumulative demand i.e. aggregate demand under which economies of scale increases the productivity of investment elsewhere in the economy (Murphy, Shleifer, and Vishny, 1989 for a modern formalization) in these states of affairs there can be said multiple equilibria (a low-investment and a high-investment equilibrium.)

Everybody would be more affluent at the high-investment equilibrium, but no market forces taking an economy from the small-investment to the grand-investment equilibrium. Some kind of coordination is required to move from the bad to the good equilibrium. Thus, if the economy resists the bad equilibrium then it is said to be in the coordination failure in the long run situation.

4. Coordination Failure by Multiple Equilibria: Different Case Studies

Case One: Let's suppose that there is an industry agglomeration (i.e., increasing industry size in a single location) which, is far enough to generate the benefits of increased specialty, now Imagine that a good can be produced with two technologies: a backward technology that is said to be labour intensive, and a contemporary technology or capital intensive which are specific for the particular intermediate goods.

If all the firms use the backward technology, and as a result, the market for inputs will be small, multiple equilibria exist and hence there will be only a few specialized inputs, in turn making the modern technology uncompetitive. By contrast, if firms use capital-intensive technology, the market for inputs will be huge and this will generate incentives for many firms to enter into the fabrication of particular inputs.

As a result, there will be many varieties of particular inputs, and this will make it advantageous to use the modern technology, thus the later was treated as a good equilibrium state whereas the former was a bad equilibrium state.

Case Two: Suppose firms are needing some specialized skill to locate themselves in an area and workers in that particular area are acquiring those skill then there will be no multiple equilibria but if the firms would not move to that area or region where there is no suitable worker and workers thus not acquiring the skills because no firms are coming there to employ them then two equilibria exists- one in which workers acquire the skills and firms come and hire them and one in which the workers don't.

Case Three: Let's suppose there is subsistence agriculture persist in which every farmer grows crops that enable them to be self-sufficient and on the contrary handsome farmers are specialized in a single (cash) crop because it requires good market access; contract etc. Thus again: two equilibrium at the same time are possible - one in which every farmer is in subsistence; and the other one in which every farmer is specialized.
So it is something negative mechanism where underdevelopment becomes the outcome of bad equilibrium. Thus for the sake of pushing the economy towards the self-sustaining better equilibrium deep intervention is needed, to move the economy to a preferred equilibrium or even to a higher permanent rate of growth with no incentives to go back to the behavior associated with the bad equilibrium.

5. Review of Literature

Matsuyama {1995} has an emphasis on the problem of coordination failure and suggested the particular role of an entrepreneur instead of a government mechanism and says that the entrepreneur should enhance the efficiency of firms because they only can set the methodological issues between the firms. Further, he says that the entrepreneur is the representative agent of the society being able to solve the coordination problem well.

Themdanirodrik {Feb 2000} emphasizes the importance of knowledge spillovers on a local basis. And for the requirement of absorbing local knowledge, the most effective tool is the participatory political. Democracy is the mixture of formal and informal both kinds of institutions for eg. government, economy, education, family, and religion both go altogether. Thus for the sake of handling coordination failure the concept of meta-institution is needed.
Karla Hoff {April 10 2000} has drawn the causes of low-level equilibrium “traps”. He says that it may happen that both low-level and high-level equilibriums are possible.
He further pointed out that also with strong spillovers, it is not always necessary to find the dynamic and good equilibrium in any certain condition of an economy. This article signifies how modern economic theory broadens our view of the sources of spillovers that could lead to "traps" with low innovation and incompetent institutions. The article

argues for an ecological viewpoint on development, where the influence from others in one's environment is a critical determinant of outcome.

Andrés Rodríguez-Clare Inter-American Development Bank {December 2005} discusses coordination failures, its consequence to developing countries, and the state of affairs under which they happen, arguing that the clusters can be seen as agglomerations of firms and institutions in interrelated economic behavior among which coordination failures are expected to happen. The article refers to the causes behind the development are industrial clusters that provide an opportunity for microeconomic involvement encouraging coordination and communal actions to advance productivity. Afterward the article presents a small economic model inundated by sectors but there again cluster-specific coordination failures, demonstrate that policy should be premeditated in such a way as it nurtures collaborations in sectors where the economy already shows comparative advantage.

The next attempt is by **David de la Croix1 Frederic Docquier {2 May 2010}** explores that the complementarities between poverty in developing countries and high-skill emigration. The model is built focusing on indigenizing human-capital accumulation, productivity, and high-skill migration. Two countries opening with the same characteristics may wind up either in a "low poverty/low brain drain" path or in a "high poverty/high brain drain" path. After identifying country-specific parameters, it is found that, in most of the countries, the pragmatic equilibrium has a higher income. In 22 developing countries (including 20 small states with less than 2 million residents), poverty and high brain drain is deteriorated by a coordination failure. For 25 other countries, economic performances are worsening rapidly. These results are fairly vital for identification assumption and the insertion of a brain-gain apparatus.

After reviewing the literature we can make the concept of coordination failure in all aspects but there is a great need to find the failure in the terms of the Indian economy and then there should be an aim to remove the disequilibria created by it.

6. Problem of Coordination Failure and its Implication in Indian Economy

In India, although there have been many more practices done for the development a steady growth rate is still not found since the independence. Earlier we were the golden bird but exploited brutally by East India Company and still, we are the exporter of primary products mainly despite of grooming day by day in international trade the Terms of Trade are against us and we have to look others for a manufactured product. After liberalization tax reforms, monetary policy reforms basic trade sector reforms were done to boost our economy but we are still lagging behind in the reforms based on the agriculture sector. We are improving ourselves in service-led growth basically and this again arising the adjustment problem between the agriculture sector and industry/services that led to coordination failure. Although agricultural production has increased than before population growth has shown its response in multiple terms as the Malthusian concept advocates. Thus we are in a bad situation of food production that always remains behind the population. As of Economic Survey India's average yield in 2013 was 3075 kg/ha which is lower than the world's average of 3257 kg/ha. The picture is most surprising because almost all Indian states have registered yields below in paddy production than that of China and even at some places yields are below than of Bangladesh. And on an average countries like Brazil, Myanmar, and Nigeria has a higher yield than that of India.

This is pitiful for the Indian economy where on the one hand we are based on the rain-fed and {those who grows is hungry} on the other our economy is becoming more and more service-based where not only agriculture but also the manufacturing sector is decreasing with the decrease of manufacturing jobs per year.

There are two main reasons for the decline: increases in substantial productivity which means fewer workers are needed to maintain manufacturing output; and outsourcing, especially to countries that have much lower wages also an attractive option for companies in quest of to uphold their competitiveness and enhance their bottom lines. Thus India is emerging as a new economy that is praiseworthy but in which competence, competition, and coordination failure run hand in hand. Competence and competition is our strength but coordination failure is our weakness.

The major cause of coordination failure between sectors in India are:

- The problem of Food Security and the existing Malthusian Trap
- A Primary mode of Agricultural without evergreen Revolution
- Rural migration
- Ideological Shift toward Commerce and Commercialism
- Lack of governance as Market Creators
- Corruption

for the reason of the removal of this failure, some initiatives have to be taken as a deep intervention like Make in the India by Indian government. The initiative indicates that India has the probability to attract possible Investors. But to grab the potential through the Make in India strategy is a real challenge. The challenge becomes more complex in India due to Indian demography and diversity. How to ensure inclusiveness with sustainability through Make in India is also a major challenge.

Indian diversity is a challenge but it could be a potential driver for Make in India, also as per Lewis has proposed Dual Sector Economic Theory which states that the Capitalistic sector takes cheaper labour from labour sector and hence economy develops gradually. Due to its diversity, India behaves like the multi sectoral economy. A Multi-sectoral economy means it has all Types of surplus Labour spectrum. India has surplus engineers, non-skilled labour, skilled labour, and intellectuals evolving high skills also, it has the uppermost percentage of youth population at this time and now it is proven.

One another challenge for the agriculture sector is that this sector is appealing to another revolution like the 1960s Green Revolution. Something strategic like MAKE IN INDIA, and SKILL INDIA. The government has to explore the crops where India has a comparative advantage as well as there is a need for linkages between services /industry and agriculture sector.

What has to be done for securing the agriculture sector, linking up with the industries, and removing coordination failure:

- Creating sustainability dimensions for agriculture.
- Enhancing R&D spending on agriculture.
- Exploring the process of innovation in agriculture.
- Improving quality standards and efficiency.
- Improving rural development and local sustainability, mitigating poverty, increasing household income, and preventing labour migrations to urban areas.
- Accepting the priority of agricultural development, requirements emerged in policymaking and implications of rural industries as well as urban industries in the agriculture sector including agricultural tools and equipment.
- Agriculture sector development must lead the income redistribution towards rural areas.
- Adequate and reliable infrastructure system that can promote trade and mitigate market failure.
- Building capacity for monitoring and evaluating the rate of return on the investment proposals in different sectors mainly the promotion of public funding in the agriculture sector.
- Removing legal and institutional weaknesses and avoiding unnecessary budgets.

7. Conclusion

To conclude it is said to be that there were many development frontiers in the history of development theories but the most dangerous problem is seen as the coordination failure for underdevelopment economies in which all the positive efforts are seen as lost. This argument particularly starts from Murfy, Sheilfer, and Vishney's idea of underdevelopment which is something different from the basic ideas. W. Arthur Lewis, Rosenstein Rodan, Nurkse, Singer, Prebish, Hirshman and Leibenstein, Rostov, etc. all these development economists viewed economic development as a generalized process that requires the methodical reallocation of factors of production from a traditional technology, low-productivity, decreasing returns, mostly from the primary sector to a modern technology, high-productivity increasing returns, in the industrial sector. But, the later neo-classical development economists and modern economist like Amartya Sen, and Debraj Ray assumed that there are few technological and institutional impediments to the requisite resource-reallocation and these resource reallocation processes are hampered by rigidity Investment unevenness, insufficient infrastructure, defective foresight, and absent markets, or market failures basically causing the dis-coordinated behavior and generates multiple equilibria i.e. the combination of good and bad equilibrium at the identical time. Now the policy framework is needed and the government should act as a "prime mover" in such a way by which the "big push" and the Hirshman's unbalanced strategy can be put into the practices smoothly, along with these the under developing countries should avoid single approach like Make in India initiative, only for improving industrial capability and not for agricultural a bit. Thus a transformed and corrected kind of planning is needed to ensure coordinated development as well.

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