Motives to Work: A cause of Disparity

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Abstract

In this paper, a relationship between development and human motive to work is hypothesized. As the relationship is logically extended, the initial disparity in the predominant motive to work, caused due to random choice, is established as the fundamental factor causing developmental disparity. For those interested in predictive analysis, modeling of this motive choice behavior and the possibility of predicting economic development is also addressed.

Keywords: *Development, Random choice, Motives to work*

Introduction

banks and sea shores. Natural resources of food and water were abundantly available there and that was the motivation behind large form of settlements (Macklin and Lewin, 2015). Geographic and climatic variations caused some basic differences in the type of work carried out; but it had nothing to do with inherent notions towards development and growth.

American civilization and the civilizations of the current South-East Asia were culminations of various races, migrated from various parts of the world. It can easily be identified with the merging of different languages and vocabulary and races (Parker et al, 2017). So there was no reason why this developmental disparity would be caused because of the genetic differences of the people concerned. The current paper proposes the Predominant Motive Hypothesis and then empirically establishes – where from this initial disparity arose. Then a mathematically predictive model is also developed to give the hypothesis a genuine validation.

It's very easy to attribute the reason to variations in social structures, and psychographic traits of the civilization in the preceding time period; it's easy to say that the Japanese believe in participative governance, so dictatorial form of leadership (which can best achieve dramatic enhancement) cannot prevail there (Tsubogo, 2014); Americans are hard-working and in general, very patriotic (whether altruistic or not is debatable), so economic and technical growth surpassed others (Huddy and Khatib, 2007); Indians were predominantly mild and humble, before the cultural intermingling, on top of that they were highly theoretical, so growth remained only in the intellect (Avari 2007). Various Factors like literacy, health, corruption etc. have been proposed as determinants of development (Antonio and Jarociński, 2010). Governmental policies and structure (Brons, 2000), along with natural resources (Gylfason, 2002) have been thought of as factors influencing development and disparities. All these were well-researched facts and apparently, these seem very obvious. But these reasons behind socio-economic developmental disparities observed today, are effects of disparities hundreds of years ago. This paper puts forward this fundamental and primitive reason of developmental disparity.

A relationship between development and human motive to work is hypothesized. As the relationship is logically extended, the initial disparity in the predominant motive to work, caused due to random choice, is established as the fundamental factor causing developmental disparity. For the sake of predictive analysis, modeling of this motive choice behavior and the possibility of predicting socio-economic development is also addressed.

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Component-Free System

The economy is a system; and true to its definition, economy fits into all the characteristics of a system. But if we look closely into how the system functions, rather how the elementary components or sub-systems of the system contributes to its functioning; smaller subsystems are maximally mixed for the total system to function (Page, 1993), we shall see a strange behavior which is against the characteristic features of any other system. The paper shall return to the predominant motive hypothesis, but before that a theoretical construct of Component-free system, needs to be developed.

A component, ideally should consciously take part in the system's functioning. An organization grows, turnover increases, new recruitments take place, management style and structure changes; and all these happen because of the conscious contribution of the employees (Ghafoor et al, 2011). The term 'Conscious', has a special significance; the employees perceive, in a clear frame of mind, their own contribution towards the organizational development. This is called the feeling of 'ownership'. But when we consider economy to be a system; the elementary component 'individuals' mostly has no conscious contribution towards the development of the economy. The term 'mostly' is used because, there is a handful, extremely patriotic people, who mostly strive and struggle for the country. The others only criticize.

Individuals work to keep their earnings un-hampered, or they want recognition, compulsion and so on. Whatever might be the reason, the basic motive is selfish. People sometimes even feel uncomfortable if they realize that their contribution was purely altruistic (Stevenson and Maher, 2006). This very point of 'Motives' is the basis of the paper. Now coming back, normal wage-earner citizens or self employed people or even small business men, continue to work in the same manner no matter what change takes place in the economy. The ruling party might change, the monetary or fiscal policies might get revised, but unless something massive happens in the economy; a common citizen, will continue to work in the same way as before and with the same motive. On the contrary, now let's shift focus from the components to the system: the economy. Anyone can stop working, die, kill, shift role, or migrate to other countries – again, unless each of these are on a very large scale – the functioning of the economy will remain as it is. Quite strangely it is observed, unless something revolutionary happens, the proceedings of the system as a whole never change. This is the Component-free system construct.

So combining all the logics together, it is understood that the most elementary components have got their own motivations to work. This connects the paper to the developmental disparity. So now going back to the connect; the paper presents a literature review.

Literature Review

The factors affecting economic development and the primary determinants of economic development have been studied from various perspectives by social researchers. Most commonly factors like GNP per capita, population growth, occupational structure of the labor force, urbanization, consumption per capita and social conditions like literacy rate, life expectancy etc. are considered as important criteria for categorizing countries into several developmental strata (Economic Geography: Measures of Economic Development). This classification seems evidently important when it is found that approximately two-third of the total population of the world lives in economically under developed countries (Dowd, 1957). Empirical researchers and international bodies have mostly used per capita income or output to measure the degree or stage of economic development (Leibenstein, 1957). Edward G. Stalkwell (1960) argues that objective measurement tool for economic development is necessary to relatively view a country with respect to others and to measure the growth of an economy inter-temporally. All these measures of development seems non temporal and non-regressive. In other words, they tend to measure development at a static point in time; the process of development is not emphasized. Furthermore, no recognition is given to the past which ultimately shapes the present. No doubt it is important to understand where does an economy stand today, but it is no less important to analyze critically why the economy is what it is today.

There have been several studies that aimed to meet these requirements. As per Bardhan et al. 1997, corruption had been identified to be an indicator of the developmental progress. It was argued that corruption reduces investments across the developing countries and hence it causes a barrier to growth (Reinikka, 2004; Svenson, 2005). Quite interestingly, in another study, it was clearly observed that more corruption prevails in poorer countries (Bardhan et al, 1997). So the approach seems to take a loop. The question remains open whether corruption is an indicator of development or development is an indicator of corruption.

Adam Smith took the regressive approach. His theory on national development converged to the theory of revolution. He argued that national development is shaped by the revolutionary power of the mass (Smith, 2010). Even a broader approach beyond revolution was coined by Sir James Stewart, where he considered history to predict development (Steuart, 1966).

Other economic researchers strongly brought in the human components to measure development. Man cannot live alone and is always found in a social state and hence the study of sociological development must ideally begin with a proper study of human nature (Hume, 2019). In the book – Economics of Development (Gillis et al., 1992), a detail study was made on the contribution of human resource to development over population, labor, education and health. More formally an extremely trusted index called the HDI (Human development index) was propelled. The three main areas where the index focused were life expectancy, education and income (Haq et al., 1990).

Now if the vast literature is critically analyzed and the actual need to develop a parameter for development is considered, three things incidentally emerged; One, the measure over a nation or economy is misleading because one nation can have several cluster of society where inter-cluster disparities are high; two, the measures deal with development and not the disparities therein. Hence, a formal regressive model is necessary to pin down the primitive cause of disparity. And thirdly, the model must have a predictive power to ascertain a trend in the future. This is categorically important because governmental policies, structures and regulations always shaped the society superficially; it cannot mold the choice set in an individual. That choice set can be the choice set of work or choice set of products (Fotheringham, 1988). And that is why the iron law of oligarchy (Diefenbach, 2019) holds true even today: Its compulsion, not choice that formally organizes a society.

Individual motives to work as a determinant

It was already proved; the economy function as a system and in a broader sense resembles a machine. Individuals are the smallest indivisible component of the economic system. Each individual worked to contribute to economic growth. In this study, work is defined as the labor that generates income and hence, the worker exercises power to choose between labor and leisure. It is ideal to consider those works only whose income partly is disposed as tax, because the choice between work and leisure depends partly on the tax rate (Meltzer et al, 1981).

While each individual possesses a combination of motives to work in some order of priority, but the society in general possesses a predominant motive: the motive held by the majority of individuals.

Empirical Validation

To empirically validate this argument a two stage survey over 550 workers at various levels of society was conducted. A list of all possible motives is presented next.

1. Sustainability
2. Luxury
3. Security
4. Status
5. Enriching life of future generation
6. Earning money for distribution in charity
7. Earning money for acquiring friends
8. Leisure at retirement
9. Earning money for self-developmental activities
10. To ensure communal growth
11. To ensure communal harmony
12. To achieve social recognition as an opinion leader

13. To achieve permanency in any social group
14. To achieve respect in family
15. To become envy for others
16. To show business to friends
17. To avoid dull periods of time
18. To avoid social responsibilities
19. To cooperate in national development actively
20. To cooperate in national development passively
21. To earn credits of achievements
22. Altruism
23. To learn the methods of work
24. Self-annihilation
25. Social annihilation
26. Need for power
27. Compulsive pressure from family
28. Compulsive pressure from society

Almost an exhaustive list was prepared through a brainstorming session of fifteen panel members – out of which ten were corporate managers, two were academicians and three were social workers. Each motive was presented in front of the selected respondents and response was generated on a 5 point Likert scale. At one end of the scale was strongly disagree (the respondent does not consider the motive valid for work) and at the other end was strongly agree (the motive is very important for work). Factor analysis using PCA under varimax rotation was conducted. From the rotated component matrix seven components were extracted that defined 52.343% of the total variance. The later factors were purposefully omitted since the grouping did not provide logic or did not make much sense. So, the components or factors were identified and were given the following names judgmentally.

Motives to work

Seven factors that were extracted, can be thought of as seven broad motives to work. These motives are considered as the benchmark to present the predominant motive hypothesis formally.

Factor1: Financial sustainability: any motive to earn money to maintain own or others current financial stability.

Factor 2: Financial security: to maintain stability in the future that is either in the old age or of the future generation.

Factor3: Luxury and leisure: the motive to replenish labor now to acquire luxury or leisure in the future.

Factor4: Fame and status: Earning recognition, importance at various levels of the society – it can be as small as the first generation family or as large as the nation or the economy. It also encompasses historical fame.

Factor5: Personal development: It can be to learn the techniques of work, self-actualization even to the extent of spiritual development.

Factor6: Patriotism and social responsibility: any motive where other's interest dominates self-interest even to the extent of altruism falls under this category.

Factor7: Pessimism and destruction: Any work motive that does not allow a win-win situation relates to pessimism, personal or social destruction.

The Predominant Motive Hypothesis

The predominant motive to work that the society possesses ultimately shapes the trajectory of development. If one social group, functioning independently, holds a predominant motive different from another social group, the rate of development, trend of development, direction of development and even definition of development would be different for them. As the paper proceed; firstly a theoretical construct will be provided, then a Markov chain predictive model and finally, a mathematical construct will be illustrated.

a. Theoretical construct

To begin with the model is not restricted to a nation. Development through predominant motive can be thought of on any social group – family, community, district etc. that functions relatively independently. If looked closely at the regressive framework defined earlier, a question arises: what caused the initial disparity in terms of development amongst races, societies, settlements etc. the primitive cause attributed to these disparities here is the predominant motive that was randomly chosen at the time of inception. Referring to the seven factors, the hypothesis states that any group differing over the combination of these factors as their predominant motive, differs significantly in their developmental status.

b. The Model

The seven factors or the broad motives detailed in the previous section is now modelled as seven different states wherein the society operates predominantly. The row vector M represented as [m1, m2. … , m7] denotes the current state of the society. Mi denotes the percentage of total population of the independent group under considertaion, who works predominantly under the influence of motive i. The transition probability vector p represented as

$$\begin{bmatrix} p11 & \cdots & p17 \\ \vdots & \ddots & \vdots \\ p71 & \cdots & p77 \end{bmatrix}$$

denotes the probability that the society's predominant motive state will change from i to j. Pij when i=j represents the probability of the society retaining the same predominant motive in the next time period. And pij when i≠j (the non principal diagonal elements) represents the probability of transitions.

It is only obvious that at the inception of the group either through settlements or through migrations or through renewd construction after a calamity – war, famine, flood etc. the predominant mitive of the group was randomly assigned. Thereafter at time period ti+1 the state of the society is defined by m*p defined as the multiplication of the previously defined matrices.

c. First order Markov chain model of the predominant states

In the first order Markov model it is assumed that the predominant motive state in time period ti is influenced by the state attained in time period ti-1. The fact can be explained in the following manner: The social categorization that exists in ti-1 naturally influences the next generation of thought. By the word "Generation" it is percived that the priorities of an individual or a group of individuals get transferred to the immediately succeding group of individuals who considers the former ideals or value makers. Hence, in the firsrt order Markov model the paper presumed this influence to hold.

The impossible equilibrium paradox

Before the construct is extended further as a function of time, an interesting paradox is presented here. If the Markov model developed is analyzed properly, it appears that it is mathematically possible to calculate the steady state of chain. If 'n' is represented as the variable of the steady state then, m*p=m i.e, the state when multiplied by the transition probability matrix gives back the same state.

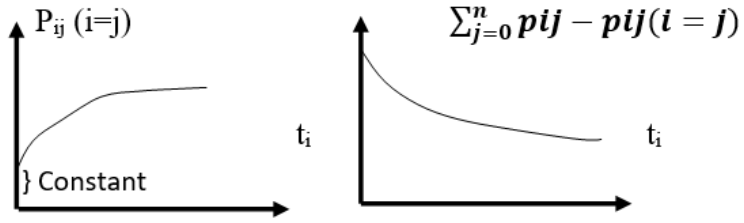
Under such a situation i.e, when the group under consideration devides itself exaclty as per 'm' based on their predominant motives the division will never change. Even if other intervening factors are considered like - influence of other groups or inter-group conflicts, still a time must come when all the groups should reach the state of equilibrium or the steady state. But practically, such a time has never come in any civilization's history. The history has been long enough already for such an equilibrium to emerge. But the world has never encountered a period of time where the distribution of motives to work remained constant. Had such a time come, there would have been no fluctuation in corruption level, literacy level, level of philosophical insights, level of altruism etc. This leads to a paradox - the foresaid equilibrium is impossible practically but evidently must occur mathematically. The paper calls it – the impossible equilibrium paradox.

d. The transition vector as a function of time

In this section we convert the transition probability vector p into a variable, dependent on time. The construct allows us for a functional representation of the vector. But before the model is established, the thought behind the function needs to be appreciated. Let us imagine, at the time period ti the social group has seven work motives to choose from. As per the traditional Markov model the transition probabilities remain constant over time. But here it is argued that when one group of individuals has a predominant motive at time ti, the probability of retaining the motive is higher i.e, if the motive is ui, then pij where (i=j) > pij where i≠j. Furthermore, as time goes by, the chance of retaining the same motive also increases leading to a functional change in the transition probability matrix. So as i in ti tend to increase, the principal diagonal elements tend to increase as well. The following figure illustrates the behaviour.

$$\begin{bmatrix} p11 & \cdots & p17 \\ \vdots & \ddots & \vdots \\ p71 & \cdots & p77 \end{bmatrix}_{t_i} \ldots \begin{bmatrix} p11 & \cdots & p17 \\ \vdots & \ddots & \vdots \\ p71 & \cdots & p77 \end{bmatrix}_{t_{i+1}}$$

Where $p_{ij}(\text{at } t_i) < pij \text{ (at } t_{i+1})$, i = j.It can be graphically represented as:



In the above diagram, we approximate the discrete values in a continuous exponential function as: $f(t) = \alpha + 1 - e^{-t/\beta}$, $t \geq 0$ and $\beta > 0$, where t is time, a is the constant and b is the distribution parameter.

a. Measure of α (the constant)

It has been established before that at the inception i.e, at t0 the chance of the group acquiring any specific predominant motive is random and unbiased, the initial probability for all should ideally be equal. Hence, if the number of possible states be n, the a ideally, under the simplistic preliminary model would be 1/n. Therefore,

$f(t) = (1+n) / n - e^{-t/\beta}$ for $n>0$ and $\beta>0$.

Now if the principal diagonal elements follow the above function, the sum of the non principal diagonal elements of each row would be:

$f(t) = n-1/n$ for $t = 0$ and $(1-e^{-\beta t})+ 1/n$ for $t> 0$.

For t=0 the function starts at $1-pij=1-1/n=n-1/n$ and then gradually diminishes tending to the constant value of 1/n.

b. Measure of β (the parameter)

β being the parameter of the distribution indicates the steadyness of the fall or rise of the function over time. The stronger hold the predominant motive has on the group the stipper fall or rise of the respective function will take place. The analysis of the causes however, is beyond the scope of the paper.

Possible Extensions and Scope

The entire model developed in the paper, can be thought of no more than as a preliminary construct. If we look at the practical side of economic growth, the model requires several implicit extensions. It is imperative to discuss the possible extensions briefly.

One, since development is a continous process, time cannot be assumed to be discrete. The model needs to be mathematically readjusted to acoomodate a continious approximation. The probability of state transition over a period of time will therefore be $\int_{t=1}^{i+1} \frac{1+n}{n} - e^{-t/\beta} dt$ for the principal diagonal elements and $\int_{t=1}^{i+1} 1 - e^{-\gamma t} + \frac{1}{n} dt$ for others.

Two, a random walk model should ideally be proposed to define the choise of states at ti=0 and all other elements other than the principal diagonal elements at ti>0. The pattern of individual choice should be defined as a random walk and a structured algorithm should be modelled with it.

Three, at the initial stage of human civilization, not all the motives would have got equal priority. Instinctively, the primitive man would hunt for food and food alone. There the question of personal development or patriotism would not mean anything. So even though for the sake of simlicity the model assumes equal probability of acquiring any of the seven states, a detailed investigation is due on at which stage of development, which state comes into the choice set.

Four, several intervening factros at various stages of development creates a motive choice bias. War for acquiring a plot of land, social rules and norms, spiritualistic approach to education, sudden economics shocks etc. are some of the factors. They need to be considered with the level of influence they exert and finally, since it is not possible to regress back indefinitely into the past, the model should have the scope of building up from ti>0 and should still be having the capacity to predict future trends. With these future possibilities we can wind up the model in the concluding section.

Conclusion

This study of the predominant motive hypothesis, critically appreciates it as a principal determinant of developmental disparity. It takes into account the questions raised over the past literature in the introductory section. The model can be applied to any social group not necessarily a nation or an economy, it deals with the imperative cause of disparity and it can have the predictive power to ascertain development in the future. In this concluding section, it would be worthwhile to note that the model can become exhaustive provided all the details presented in the last section is incorporate in it. It is incorrect however, to assume that no other cause initiates the foresaid disparity other than the combination of work motives. But technically speaking, any other parameter directly or indirectly affects the motives only at the individual level. The model is specific in the fact that the macroscopic view of the economy can only be understood with a clear perception of the microeconomic and the most fundamental component of the social system – the individuals and their motives to work.

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