

**A BEHAVIOURAL ECONOMIC PERSPECTIVE ON GLOBAL
MIGRATION AND HUMAN CAPITAL SHIFTS WITH SPECIAL
CONSIDERATION FOR SECTORAL DEVELOPMENT AND INDUSTRY
SPECIFIC INNOVATION**

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ABSTRACT

Shift of human capital has existed from time immemorial, the complex factors facilitating it and consequent motivations that have a dynamic interplay has however changed with time. The main purpose of this research paper is to analyse this diverse component of population change. This will be done by analyzing the following, first, the primary question of “why migration?” through a fundamental difference between the Human capital theories and the concepts of behavioural economics to increase our understanding of ‘predictable irrationals’ such as driving factors, loss aversion, risk seeking & passions. Secondly, examining the impact of the global shift in human capital promoting sectoral development of certain industries with special emphasis on the technology industry. Finally, examining the complex interaction between industry specific innovation and economic development instigated by human capital shifts. The idea of human-uniqueness and behavioural unpredictability will help us extend the classical economic concepts to analyse and forecast migration and at the same time help us devise a hypothesis (cited in the paper) that can be used for quantifiable human capital data in real life as we understand the difference between human capital and production outcomes.

1. Introduction

Throughout the history of humanity, every once in a while, things change dramatically that make the entire functioning of the various complex elements of our life function differently. This change seems so subtle that it is only observed in retrospect. This changing context of our lives, according to me, can be classified into different ages or eras.

Broadly recognising the major eras, the classification according to me is as follows- First, the age of land operations, followed by the age of bricks and roads, the age of construction and as

trade developed we observed the emergence of the age of machines (physical forms of technology) then to an age of pure technology, which is the age of today. I believe that humanity is now on the cusp of a new era, a new age of human capital, where humans and tech enabled human capital terminate the difference between the consumers and producers. Then perhaps, the futuristic portrayal of technology becoming the enabler of human capital might not be that distant. My point is that this change, in the importance of human capital, is something that is very important to understand and study. An era where creativity and design is of immense value. The future is definitely a challenge to the status quo.

A fact that has transcended time is that humans are migratory by nature. As we dive into understanding this concept in a more elaborate way, it is crucial for us to understand the unconscious behavioural tendencies that cause migration. Furthermore, As this new era of human capital employs more importance to the granular understanding of each individual, it is important for us to recognise the migration of human capital and its pattern in certain sectors and industries and the possible motivations that attract individual aspirations from throughout the world.

Subsequently emphasising on market/industry influence of the same that runs corresponding to this-deemed-new era of technology enabled human capital, where the growth of human capital runs parallel to the deceleration of importance of physical capital and technological investments, which is ironically, in the very same era of technology-indicating the change that is ongoing right now.

It is without a doubt very crucial for us to analyse these global changes in a way that it does not reduce humans to mere blocks of data, rather analysing this change at a 'human level' that will help us to devise a realistic critique towards the already applied uses of human capital data and assessment.

As we progress further in this paper we aim not to delve into whether this migration should take place or not, instead, the paper aims at understanding how to regulate this change in a way that maintains the economic and social equilibrium of the world is more practical. One way to optimise this regulation is through the concept of CARE -Creation, Attraction, Retention and Ability to enable human capital, given by Dr. Constantin Gurdgiev.

3. Body

3.1 Behavioural economic insight on migration theories and human capital migration

One of the biggest mistakes done by erstwhile economic migration theorists is to assume humans as rational and selfish and/or self-interested individuals, most of these theories being based on

the view of neoclassical and classical economics. The problem with this model is that it is very unrealistic in its application, and this narrative has been recently widely recognised and accepted since the school of thought of behavioural economics has been on the rise. The truth is humans are irrational, often selfless and almost always affected by social factors and preferences. Factors such as happiness, social preferences, personal characteristics, gains vs. losses, loss aversion and risk aversion, risk-seeking and endowment effect among many others are exactly the type of variables that are necessary to extend the neoclassical theories to make it more practical. Reduction of assumptions on standard economics models could achieve more reality reflecting explanations of human behaviour causing migration.

Standard economics view of migrations

The fundamental model of neoclassical theory highlights that migration is a result of interregional wage differentials, distance between origin and destination, and labor market conditions such as the unemployment rate and market fluctuations as factors determining migration. The formative work of Sjaastad's Human Capital Theory (1962) provides a theoretical framework for examining households' decisions to relocate from a geographical area, defining the issue as their desire to maximise their net economic return on human capital.

Some of the other major neoclassical theories are : Smith (1776) and Ravenstein's (1889) Economic Equilibrium Theory, Heckscher (1949) and Ohlin's (1993) , Migration Theory, Todaro (1969) and Harris-Todaro's (1970) Rural-Urban Migration Theory, Lee's (1966) Early Decision-Making Theory, Borjas' (1987) Self-Selection Theory, and Piore's (1979) Dual Labour Market Theory.

Recent analysis of other factors

The neoclassical view has been subject to justified criticism as it is "viewed as mechanically reducing migration determinants, ignoring market imperfections, homogenising migrants and migrant societies and being ahistorical and static" (Kurekova, 2011, p.7).

Table 1. Factors affecting migration decision

Author	Factors
Czaika (2015)	Future general economic and unemployment prospects; networks, foreign employment; income gap; unemployment rates; job vacancy ratio
Czaika and Vothknecht (2014)	Current subjective well-being; (economic) aspirations for the future
Polgreen and Simpson (2011)	Happiness; GDP (per capita real gross domestic product); GDP growth (growth rate in real GDP)
Bonasia and Napolitano (2012)	Employment rate; relative income (using per capita regional income); educational level (low/high); house prices; carbon dioxide emission; juvenile delinquency
Tupa and Strunz (2013)	Unemployment; number of new jobs created; self-esteem and need for fulfilment; learning and practicing language skills; new knowledge; having a job with higher salary; social status; motives of migrant's needs
Jennissen (2004)	Real wage; real GDP per capita; unemployment; shortages at the bottom of the labour market & unemployment; the certainty of sufficient household income; the degree of (income) inequality; average years of education; material and cultural linkages between countries; the size and quality of the network of the migrant population in destination country; the number and quality of organization that facilitate migration to destination country
Cattaneo (2008)	Wage; unemployment rate; personal characteristics (gender, age, education, experience, marital status) and other info as occupation and industries
Van der Gaag and van Wissen (2008)	GDP per capita, unemployment, employment; inflation, lending interest, real interest; female labour force participation, employment in services, ageing of the labour force
Kurunova (2013)	GDP per capita; unemployment rate; consumer price index; minimum wages; social protection expenditures; natural increase/decrease of population; fertility rate

table 1.1 by (Procedia - Social and Behavioral Sciences volume 213, pg 873 – 878)

This study of recently analyzed migration variables are proposed by various authors who extend the theories of new economics. These include Bonasia and Napolitano (2012), Cattaneo (2008), Czaika and Vothknecht (2014), Czaika (2015), Jennissen (2004), Kurunova (2013), Polgreen and Simpson (2011), Tupa and Strunz (2013), Van der Gaag and Van Wissen (2008). The factors recognised by these theories have been summarised in table 1.1 (Dr Ineta Žičkutė, 2015).

Some key ideas of economic human behaviour that are the hallmark contradictions to classical theories are:

- The **availability heuristic** refers to the idea that people often rely on easily recalled information, rather than actual data.
- **Bounded rationality** refers to the fact that people have limited cognitive information, ability and time, and do not always make the “correct” choice that is often anticipated from an economist’s point of view.
- **Bounded self-interest** is the idea that people are often willing to choose a less beneficial outcome for themselves if it means they can support others.

- **Bounded willpower** captures the idea that people are not patient and often choose short term benefits over an optimal choice.
- **Loss aversion** is the idea that people are more averse to losses than they are eager to make gains.

It is true that these behavioural tendencies are universal in nature and give a rather needed insight towards the human capital shift argument. From the above observation of new variables, we will have a better insight towards the shift of human capital as a process fuelled not only by purely economic and logical decisions, but also factors such as loss aversion, bounded rationality, bounded willpower, social preferences and passions; characteristics that inevitably “human”. Traditional factors analysis based on standard economics explanations should be reconsidered with behavioural factors insights, trying to answer questions such as how are common passions, such as, greater moral understanding of life showcasing patterns of shift of human capital migration from advanced economies to developing economies, or vice-versa. How are the factors of loss aversion being observed in scepticism faced by subjects prone to inter-regional migration?

3.2 Economic development in the age of human capital.

It is considered irrefutable that human capital accumulation corresponds to increase in economic development of a region. Globalization and economic integration have changed lifestyles and impacted consumption patterns and preferences, which in turn has changed production patterns all over the world and instigated FDIs that indirectly also run parallel to human capital shifts. In this sense the road of economic development and human capital runs two-ways, where either of the two factors could cause the emergence of the other.

Another phenomenon in action is the connection between innovation of industries and economic development. It has been observed that as the accumulations of human capital integrate with high productivity levels the innovation levels of that said industry also increases hence causing economic development of the region. One important sector that acts as a flag bearer of this phenomenon is the pure technology sector, where, since the past decade, the leading companies have been creating a Mecca for highly skilled technological intensive human capital migration; examples of this are -- San Francisco and California-- the growing technological hubs of the world. This can be observed via analysing whether there are persisting effects of human capital on innovation and economic development using regional historical human capital and current innovation and economic development data and the observation of the said innovation development can be done through the study of industry-specific patent study (Pellegrino,

Gabriele and Penner, Orion B. and Piguet, Etienne and de Rassenfosse, Gaétan, Immigration and Inventor Productivity (October 24, 2019)).

But as we understand this complex connection, it is important to note that high human capital does not correspond to high productivity. This is often a very inaccurate assumption made. Harvard economist Richard Freeman, argued that human capital only acted as a signal about talent and ability; real productivity came later through training, motivation, and capital equipment. He concluded that human capital should not be considered a factor of production. Production levels often more closely relate to the work environment along with human capital. Achievement scores in various growth models are testimony to this intricate relation. Again, correlating to the technology industry hub, perhaps this method of retaining portable human capital along with providing appropriate work environment factors (such as working hours, human capital levels of other workers and physical capital etc) lead to higher achievement scores.

Perhaps this methodology of quantifying the achievement scores objectively will be a groundbreaking advancement for the evaluation of human capital scores that correspond more closely to production levels and real world application of human capital scores in a way that is more realistic to real world work foundations and structures.

To achieve this remarkable feat it is also important to create ways to evaluate human capital that justify the gradual evolution of education, especially keeping in mind the covid-education reform, new subjective ways such as emphasising more on ‘quality’ of education rather than quantity. Such changes will construct a new narrative of human capital that does justice to the contemporary interpretations of novel work and requirements of the increasingly competitive industry growth.

4. Conclusion

It seems most likely that the behavioural economical factors are the key to make the interpretation of neoclassical and new economic migration theories more accurate with the aim to reason the human capital shift globally. Perhaps, future studies and research in this area will make it easy for institutions, nations and individuals to forecast brain drain and human capital shifts and will give the ability to tailor appropriate migration regulations and developmental strategies to alleviate area-specific sectoral growth.

It is fair to say that it is universally accepted now, that there is a very dynamic interplay between human capital accumulation and economic growth. Both of these factors can trigger the onset of each other.

It is also true that the same complex relationship exists between economic growth and innovation, where both these factors work in a cordial way. Furthermore, human capital shifts also promote economic growth along with higher innovation probability as the migrated skilled workers showcase higher productivity levels (Immigration and Inventor Productivity (October 24, 2019)).

As the world changes, we better our understanding of the complex functioning of humanity way beyond numbers and statistics. It is time that we recognise the intricate relation between human capital and productivity scores academically. Subsequently, productivity level fluctuations act as a direct factor in affecting the achievement scores. It is hopeful that these achievement scores can be implied in novel ways in the near future to make the application of human capital in pace with the developmental levels of the current age.

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