

A Game Theoretic Model of Iranian Labor Market

Younes Brumand^{1*}, Masoomeh Asghari Firuz Salary²

¹Department of Economics, Faculty of Economics and Management, Urmia University, Urmia, Iran

²Department of Economics, Islamic Azad University, Tabriz Branch, Tabriz, Iran

*Corresponding author's email: y.brumand@yahoo.com

Received: 06/06/2019

Accepted: 31/01/2020

Available online: 30/06/2020

ABSTRACT

In this paper, we analyze the interactions among workers, employers, and the government in the Iranian labor market using game theory. For this purpose, different games among the factors affecting the labor market are analyzed in both static and dynamic situations. In each case, intervention and non-intervention of the government are also examined. Thus, four different types of games are studied, including a static game between worker and employer, without government intervention; a static game among workers, employers, and the government; a dynamic game between worker and employer, without government intervention; and a dynamic game among workers, employers, and the government. In the first three games, Nash equilibrium implies low productivity of worker, low employer's profits, and high unemployment rate in which players want to maintain the status quo. However, in the dynamic game among workers, employers, and the government, the sub-game perfect equilibrium of the game can provide some conditions in which the labor market gets away from the low productivity situation

Keywords: Iranian labor market, Labor productivity, Game theory, Government intervention

1. INTRODUCTION

The labor market is one of the most important markets to be considered while studying economics. Labor force plays a significant role in the production process because its weaknesses and strengths have a great impact on the quality and quantity of products. Indeed, the performance of the labor market has a significant effect on the performance of the product market. Therefore, the study of the labor market is very important.

Labor market, like any other market, has both supply and demand sides. The supply side of the labor market is the labor force. The labor force plays an important role in production and, given its role in production, expects to receive a share corresponding to its role. The demand side of the labor market is the firm (or the employer). A firm seeks to maximize its profits, and therefore expects the workforce to work hard to maximize its production and profit margins.

One of the most important achievements of having an active labor force is the high profit level for the firm and also macro-economic growth and development. Creating motivation and welcoming individual creativity can help the labor force to be active. However, the labor force has expectations from the employer in order to work actively.

Access this article online

DOI: 10.25079/ukhjss.v4n1y2020.pp1-20

e-ISSN: 2520-7806

Copyright © 2020 Brumand and Salary. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).

Certainly, having purchasing power, job security, and promotion of organizational status are among the most important factors that are at the top of the labor force's expectations. Failure to adhere to the hierarchy and issues such as the lack of in-organization decentralization are cases that kill the motive of the labor force. It should be noted that active labor will only arise if both sides of the labor market (i.e., the worker and the employer) interact in an accommodating manner. In addition, the lack of appropriate social coverage, including social security, is one of the main concerns of the labor force. However, these elements are considered as basic labor rights and there is no justification for the firm's failure to provide them.

In the labor market, interaction between worker and employer has been a major problem for a long time. The current labor market in most societies is the result of centuries of conflict and controversy between labor market factors. The main reason for this conflict is the distribution of profits between the employer and the worker. In fact, profits gained from selling of goods and services by a firm should be distributed among the factors of production. On the one hand, the employer, as the owner of the firm or pursuing the interests of the owner of the company, seeks to obtain the maximum share of the profits. On the other hand, the worker seeks to make his share of the profits to an acceptable level, and because the profit is a fixed amount, increasing one's share will reduce another, which means there is a conflict between the interests of the worker and the employer. The question is, how do the worker and the employer determine their share of profits? The best approach for solving such issues is game theory. Game theory is based on a kind of mental argument derived from the combination of mathematics and logic. This theory monitors rational behavior in controversial situations in which participants engage in conflict. Game theory usually addresses the issues in which there are conflicting interests among participants.

In addition to the worker and the employer, a third factor can also greatly affect the labor market

interactions in Iran, and that is the government. The government, along with its very important role in the existence or absence of trade unions, plays a key role in the labor force's life by using instruments like monetary and financial policies. The monetary and fiscal inconsistency of the government, which has been a major contributor to the spread of inflation in the community, has a direct and, of course, negative impact on the livelihoods of the workforce. Reducing purchasing power and individual welfare because of the growth of the price index along with issues such as the lack of productivity, lack of meritocracy, and sometimes lack of conscientiousness has a negative impact on the Iranian economy. However, the denial of trade unions, which is another factor that rises problems related to labor and government, should not be forgotten. In some cases, the government, because of the support of the worker, enforces the employer to increase the salary of the labor force, and because of the lack of labor organizations (which is the most important factor for protection of workers), employers fire some of the workers. These conditions signal the government's adoption of a two-way policy that, on the one hand, can improve the conditions of business by placing the producer on a higher margin and, on the other hand, can improve the workforce in order to increase productivity.

The purpose of this study is to provide a comprehensive perspective of the Iranian labor market and analyze the interaction between workers, employers, and the government in this market. Owing to many problems in the labor market and the unwillingness of the government to solve them, there are few studies in this regard in Iran; therefore, there is a deep gap in the literature on the Iranian labor market. A comprehensive analysis of the interactions of market participants can help to better understand it.

In this paper, the interaction of labor market factors in Iran is discussed using game theory. In fact, the methodology used for analysis is game theory, which is one of the innovations of this research.

Static and dynamic analyses of interactions are additional innovations of the study. Government intervention in the labor market is also being considered, which is an innovation for the research. In the literature, in the theoretical discussion of the game between worker and employer, the government is not considered as a player; instead, it is presented as a judge that has little effect on the outcome of the game. In contrast, in this article, the government has come into play as a player, and some strategies have been defined for it. It is assumed that the government has the same effect as (or even more effect than) the other two players, because the current state of the Iranian economy is far from that of a developed economy or even a normal developing economy. In this regard, first, the static game is analyzed in the modes of government intervention and non-intervention, and then the dynamic game is examined in the two modes.

2. LITERATURE REVIEW

2.1 Labor Market in Iran

The labor market conditions in the Iranian economy are different from those of a free economy. In the Iranian labor market, there is a powerful factor influencing supply and demand, causing disequilibrium in the market. This factor that has an important role in determining the level of wages and employment is the government. The factors affecting the Iranian labor market are the (1) government, (2) employer, and (3) employee.

By employing nearly 3.5 million people, the Iranian government is the largest employer in the country, reflecting the government's unreliable role in the labor market. The intervention of the government in Iranian economy is weak and inefficient, causing

the economy to be in an abnormal situation (Ghanbari and Sadeghi, 2007).

The Iranian economy has been under pressure from sanctions and ineffective management in recent decades. It suffers from problems such as corruption, poor productivity in all sectors, lack of responsibility of the Executive and the Legislative, lack of transparency, laws and regulations, etc.

Meanwhile, the government does not allow forming trade unions and, moreover, plays a very important role (using monetary and fiscal policies) in labor life. The monetary and fiscal discrepancies of the government, which have a major impact on inflation, have a direct and, of course, negative impact on the living conditions of workers. Decline in purchasing power and individual welfare as a result of inflation, along with issues such as lack of productivity, lack of meritocracy, dominance of relations rather than the rules, and sometimes lack of conscience, has negative effects not only on labor life but also on the economy. Every year, the government increases the wages in order to support the workforce, which, owing to the absence of labor unions (which is the most important factor in coordinating workers), results in employers firing some workers.

Figure 1 shows the growth of real wages in the Iranian economy over the period 2005-2018. As can be seen, the growth of real wages has been negative for some years, indicating a decline in the purchasing power of the labor force and worsening their livelihoods. During the period 2013-2017, the government controlled the inflation and therefore increased the purchasing power of the labor force, but in 2018, with a significant rise in the inflation, growth in real wages declined again and the purchasing power of the labor force also declined.



Figure 1. Growth in real minimum wages in Iran over the period of 2005-2018

Despite real wage declines in some years, the unemployment rate in Iran has always been more than 10%. Figure 2 illustrates the changes in the

unemployment rate in the Iranian economy over the years 2005-2018.

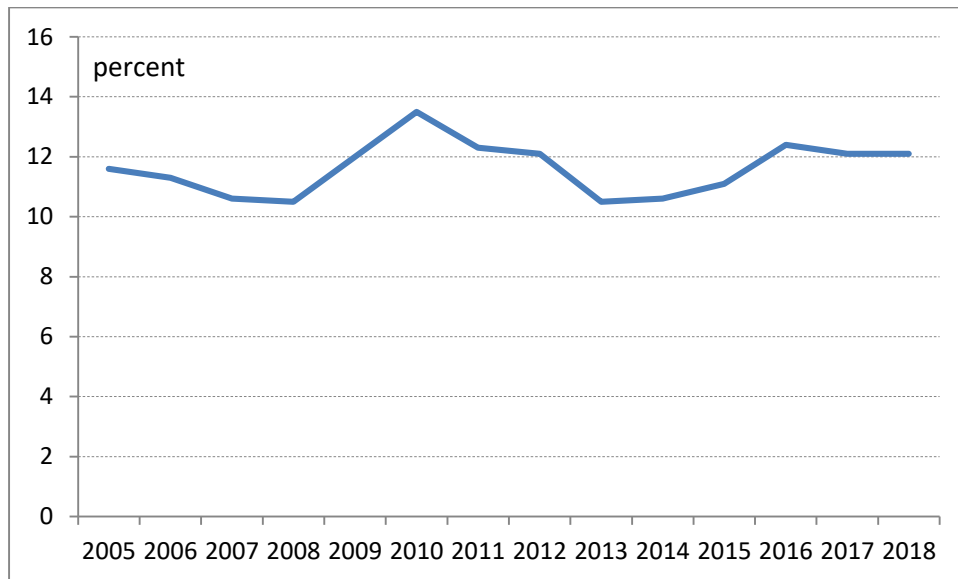


Figure 2. Unemployment rate changes in the Iranian economy over the period 2005-2018

The existence of some structural problems, coupled with the intensification of international sanctions, has prevented the Iranian economy to move toward sustainable development. Therefore, even though the labor force is cheaper for firms, these firms have not been able to employ it, so the unemployment rate of the Iranian economy has always been high. The high unemployment rate and the large number of jobseekers have made the labor force want to

work even at lower wages. Under such circumstances, the workforce is always threatened with layoffs and replacements. Thus, the workforce is likely to work below the minimum wage, and it would be natural for their productivity to be low.

2.2 Study Background

The labor force, as one of the main factors of production, has a growing role in sustainable

economic growth. In particular, in recent decades, development theories have shown the relative advantage of countries with regard to their human capital.

The low profitability of economic firms in Iran is because of the low productivity of labor that is operating in these firms. The reason for the low level of productivity is the lack of motivation for work, the lack of concentration, and the lack of welfare, most of which are due to insufficient income. The wage of workers is not enough to cover all of their initial living expenses. This reduces the productivity of the labor force in the workplace (Sadeghi and Brumand, 2012).

This study hypothesizes that if employers pay attention to this issue and increase the levels of laborers' wages, the intellectual concerns regarding the labor force – the lack of concentration and mental relaxation – will reduce; as a result, productivity can be increased. Many factors can be effective at a low level of labor productivity (such as having advanced technology), but for simplification and according to the standards of economics, it is assumed that such factors are constant. It is also assumed that the level of wages is a standard criterion for the workforce's utility, because with the increase in the wages of the workforce, their concerns about living expenses are reduced. In the next section, this subject is further elaborated.

In Iranian economic literature, less attention has been paid to worker-employer relations, and research has focused on factors affecting labor productivity or the impact of productivity on economic growth. Among the articles emphasizing factors affecting labor productivity, we can refer to al-Badawi and Ali Janni's research (2008). In their article, they have investigated the relationship between e-learning and employee productivity and have found a positive relationship between these two variables. Mahmoudzadeh and Asadi (2007) have focused on the impact of information and communication technology (ICT) on the growth of labor productivity in the Iranian economy.

According to the research, total productivity and non-IT capital have the most impact on labor productivity in the Iranian economy. In addition, the effect of human capital and ICT capital on labor productivity has been positive and significant. The work of Mohammadi and Akbari Fard (2008) is notable among the studies being conducted on the relationship between productivity and growth. In their article, they discussed the impact of productivity shocks on Iran's economic growth and concluded that supply shocks (productivity shocks) had a significant effect on economic growth. Komeijani and Memar Nejad (2004) examined the impact of human resource quality on economic growth and recognized the positive impact of labor on economic growth. Rabiee (2009) focused on the effects of innovation and human capital on economic growth and concluded that labor has a positive impact on increased production in the Iranian economy.

Articles published abroad are more focused on the relations between the workers and the employer, and even the government, than internal articles. The following are some articles that discuss interactions between the worker and the employer through the game theory. Flesch et al. (2009) studied the so-called production games and categorized their production games on the basis of the Markov transition structure. Mitrou and Karyda (2006) emphasized employability criteria, which includes the collection of accurate information about the worker; this information is essential for the employer. Jones and Simon (2005) determined the earnings of the workforce according to their skill and education. Dufwenberg and Kirchsteiger (2000) suggest two types of games in which two workers struggle for a job, and ultimately the employer employs the worker who has asked higher wages. All of these articles examine the game between the worker and the employer, each one in a way. In none of the above articles, the government has entered a game as a player, and if it has entered the discussion, it is more of an observer and has not had a significant impact on the

outcome. This is due to the fact that the economy studied by these scholars is free economics and has normal conditions that do not require government intervention. According to the authors' information, there are few papers about government involvement in the game of worker and employer, one of which is by Wang (2008). In his article, Wang discussed the insurance of rural migrant workers working in urban institutions, in which the government forces the institutions to insure these workers and, in the event of refusing to insure them, impose heavy fines on institutions. In this case, because an abnormal economic situation occurs unlike the market mechanism (insecure workers), the government enters the game.

Araujo and Souza (2010) have studied dynamics of the labor market in developing countries using game theory. They say a stylized fact of the labor market in developing countries is that it is highly segmented in informality. One of the main factors that induce workers and firms into informality is an excessive regulatory system that makes formal economy attractive. They analyze the dynamics of workers and firms' entrance and withdrawal of the formal and informal economy, assessing the impact of taxes by using an evolutionary game theory approach in which economic agents decide for one these markets according to the expected payoff. Moreover, they have evaluated the optimal relation between regulatory and enforcement action by the government.

Benjamin (2015) has studied a gift-exchange game, in which a profit-maximizing firm offers a wage to a fair-minded worker, who then chooses how much effort to exert. The worker judges a transaction fairer to the extent that his own gain is more nearly equal to the firm's gain. The worker calculates both players' gains relative to what they would have gained from the reference transaction, which is the transaction that the worker most recently personally experienced. His model explains several empirical regularities such as rent sharing, persistence of a worker's entry wage at a firm, insensitivity of an incumbent worker's wage to market conditions, and

– if the worker is loss averse and the reference wage is nominal – downward nominal wage rigidity. The model also makes a number of novel predictions. Whether the equilibrium is efficient depends on which notion of efficiency is used in the presence of the worker's fairness concern, and which is appropriate to use depends partly on whether loss aversion is treated as legitimate for normative purposes.

Chen (2019) investigated how externalities from downstream competition shape sorting in upstream labor markets. He models this as a two-stage game: an initial stage of simultaneous one-to-one matching between firms and managers, and a second stage of Cournot competition among matched pairs. If a firm's technology and human capital are strategic complements, it is rational for each firm-manager pair to expect that the remaining agents will form a positive assortative matching (PAM), and the PAM on the grand market is a stable matching under rational expectations. The PAM remains stable even when they are strategic substitutes, but the substitutive effect is moderate. However, if the substitutive effect is sufficiently strong, a negative assortative matching is stable. Chen also discussed social welfare induced by stable matchings.

As noted earlier, the purpose of this study is to analyze the relationship between the worker, employer, and government using game theory. In other words, our goal is to find the equilibrium among these three players in the current situation in the Iranian economy. The game among these three factors has not been fully explored in Iran so far, in both static and dynamic games; what can be deduced from previous studies is that the current situation in the Iranian labor market is not favorable and the workers lack motivation, which leads to reduced labor productivity and employer profits. The model presented in the next section seeks to obtain labor market equilibrium using game theory and compare that with the current conditions.

3. MODEL

This paper seeks to analyze the behavior of the factors of the Iranian labor market using game theory. In this regard, the static and dynamic analyses of the game are examined. It is assumed that the information is complete.

Each player follows a series of short- and long-term benefits that are not necessarily opposite each other. Because of the lack of unemployment insurance, workers are extremely worried about losing their jobs, and as a result, maintaining jobs is important to them. Changing the current conditions will result in an increase of the unemployment rate in the short run, but if the employer is allowed to maximize profits, his profit will increase in the long run and he will therefore expand the organization and seek to hire more workers (including expelled workers) with higher wages. In other words, changing the current condition will be better for workers in the long run but will harm them in the short run.

The long-term benefits of the firm, such as increasing production capacity and increasing profits, require the current situation to change, but changing the situation results in severe resistance from the workers and sometimes even the government, which may lead to the closure of the firm. Safeguarding from workers' strikes is one of the most important and crucial options for the employer (even if its profit is low). Therefore, the short-term benefits of the employer require him to be satisfied with the status quo.

Increasing the productivity and production is very beneficial for the government. Such a situation could, in case of occurrence, be a way to achieve the goals of long-term plans by the government. However, maintaining employment for the government is vital, and the government's short-term benefits are secured if the current situation of the market is sustained.

With regard to the above issues, the long-term benefits of the three players are in contrast to their short-term interests. In the following discussion, we want to show that these three players prefer their short-term interests to their long-term benefits.

This section has two sub-sections. In sub-section 3.1, the static game with complete information is studied with both non-intervention and intervention of the government. In sub-section 3.2, the dynamic game with complete information is examined with both non-intervention and intervention of the government.

3.1 Static Game

A static game with complete information refers to a game in which players simultaneously make their own choices and the game payoffs are common knowledge for all players. The first step in studying static games with complete information is to understand how to represent a game. A game can usually be shown in two ways: normal form and extensive form presentations. Extensive form presentation is mainly used in dynamic games. Static games are usually displayed in normal form presentation. However, both types of games can be shown in both forms.

We now examine the static game with complete information of the Iranian labor market with cases of intervention and non-intervention of government.

3.1.1 Static game when the government does not intervene in the market

The normal form representation of the static game between the worker and the employer can be expressed as follows.

The set of players

This game has two players, namely the employer (E) and the worker (W).

$$N = \{E, W\} \quad (1)$$

The set of strategies

To determine the strategies of each player, we must first determine what each player wants.

Employer

Employer seeks to maximize his profits and thus performs any action that leads to an increase in profits and avoids actions that reduce his profits. It is assumed that the firm is not satisfied with the current output, and the output produced by its labor

force does not have much benefit to the employer. Therefore, in order to increase profits, the employer must encourage his workforce to produce more. We assume that the way the employer chooses to encourage his/her workers is by increasing their wages. In such a situation, the costs of the employer will also increase. Indeed, although the employer expects that this strategy will increase only the workforce's profits, the costs of the firm will increase too. Therefore, stimulating workers to work more by increasing their wages brings with it the risk of lowering profits compared with before. In other words, it is a risk for the employer to take such an action because workers may not increase their production by increasing wages. Therefore, the employer has two options: either he should be convinced by the current benefits and willing to maintain the status quo, or he should increase the wages of workers in the hope of increasing production and expect to escape from the existing situation and increase profits. Therefore, employer's strategies can be written in the form of a change in the status quo (C) and maintaining the status quo (K). So, the set of employer strategies is as represented below:

$$S_E = \{C, K\} \quad (2)$$

Worker

The worker seeks to maximize his utility. It is assumed that the utility of the worker increases when his wage increases permanently, because the increase in the wages of the worker means that he can afford more life expenses. It is also assumed that the wage level of the worker is low and does not allow him to cover all his living expenses, and that the worker is therefore not satisfied with the current level of his wages; hence, he tries to increase his productivity to increase the firm's production in the hope that the employer will increase his wages in exchange for increased production. In such a situation, the worker gradually loses his physical ability, and his permanent salary may not increase. In other words, the employer may give him a temporary remuneration in order to increase labor productivity

and may not increase his wages permanently. Therefore, an increase in the worker's effort, which leads to an increase in the employer's production, has the risk of not increasing the permanent wage for the worker. So, the worker has two options: either he should be satisfied with the current wage and continue to produce a low level of productivity and have a tendency to maintain the status quo, or he should increase his effort in the hope of increasing his permanent wage and try to be relieved of the status quo. Therefore, the worker strategies can be expressed in terms of changing the status quo (C) and maintaining the status quo (K). Therefore, the set of worker strategies is as given below:

$$S_W = \{C, K\} \quad (3)$$

Players' payoffs

In general, in a two-player game between the worker and the employer, there are four situations for player i :

1. Player i selects Strategy C, player j chooses Strategy C.
2. Player i selects Strategy C, player j chooses Strategy K.
3. Player i selects Strategy K, player j chooses Strategy C.
4. Player i selects Strategy K, player j chooses Strategy K.

We can use the numbers 1 to 4 to rank the possible consequences for each player, so that the best situation is represented with the number 4 and the worst case is represented by the number 1. The goal of evaluating situations with numbers 1 to 4 is to give only one priority to each player, and these numbers can be any other number with the condition of observing the order. This preference is not too unfamiliar to players in the game theory. For example, there is such an argument in the prisoner's dilemma.

The worst case for each player is when he chooses strategy C and the other player chooses strategy K (situation 2). If this happens to the employer, its costs will increase (through wage increases)

without increasing its production and its profit will be less than before. If this happens to the worker, he will have to work more without raising his wages. This is the case for both players with the number 1.

The best case for each player is when he chooses strategy K and the other player chooses strategy C (situation 3). In this case, the employer will generate more profits without increasing costs because the worker will increase his productivity. In this case, the employer's profit is higher than in all other situations. If this happens to the worker, he will be able to earn more wages and achieve a higher level of welfare with the same effort. This situation is estimated for the worker and the employer with the number 4.

If both players choose strategy C (situation 1), the employer achieves higher profits and the worker gets more wages, but because the choice of strategy by both players costs them, it is better than situation 3. So, we rate this for both players with number 3. Nevertheless, situation 4, in which both players

tend to maintain their position, will be ranked with number 2.

In brief, we can write the normal form of a two-player game between the worker and the employer as follows:

1. The set of players

$$N = \{E, W\} \tag{4}$$

2. The set of strategies

$$\begin{aligned} S_E &= \{C, K\} \\ S_W &= \{C, K\} \end{aligned} \tag{5}$$

$$\begin{aligned} S &= S_E \times S_W = \{C, K\} \times \{C, K\} \\ &= \{(C, C), (C, K), (K, C), (K, K)\} \end{aligned}$$

3. Players' payoffs

$$\begin{aligned} u_E(C, C) &= 3 & u_E(C, K) &= 1 & u_E(K, C) &= 4 & u_E(K, K) &= 2 \\ u_W(C, C) &= 3 & u_W(C, K) &= 4 & u_W(K, C) &= 1 & u_W(K, K) &= 2 \end{aligned} \tag{6}$$

The matrix form of this game is as follows:

Table 1: Static game between worker and employer without government intervention			
		Worker (W)	
		C	K
Employer (E)	C	3,3	1,4
	K	4,1	2,2
Reference: Research calculations			

The game is a prisoner's dilemma, and the Nash equilibrium can be found through the best answer. To find the Nash equilibrium, we obtain the best responses of each player to the opponent's strategies.

The best responses of player E to each strategy selected by rival W are as represented below.

$$\begin{aligned} B_E(s_W = C) &= K \\ B_E(s_W = K) &= K \end{aligned} \tag{7}$$

Therefore, the best response of player E to any strategy selected by rival W is strategy K. That is, the employer will always have the tendency to maintain the status quo, regardless of whether the worker wishes to change or maintain the status quo. The strategy K for employer is actually a strictly dominant strategy.

The best responses of player W to each opponent's strategy are represented below.

$$\begin{aligned} B_W(s_E = C) &= K \\ B_W(s_E = K) &= K \end{aligned} \quad (8)$$

So, like the employer, the dominant strategy of the worker is the tendency to maintain the status quo (i.e., K). The best response of each player is shown by a line drawn under the payoff of that player in Table 1. The strategy profile (K, K) is the Nash equilibrium. But what is the reason for this equilibrium? Why is the worker and the employer happy with an equilibrium with lower productivity, when both can gain a better payoff by choosing strategy C simultaneously? The main reason is the lack of trust between the worker and the employer. In fact, neither party can trust its opponent and therefore chooses strategy C.

The equilibrium outcome is not a Pareto's optimal, and as noted, players can increase their payoffs through cooperation. If the game is repeated between the two players, both players should better coordinate their actions based on Pareto's optimal outcome and get rid of the prisoner's dilemma by choosing a cooperative strategy. If it is possible that the worker and the employer agree or trust each other, they will be better off than the Nash equilibrium. In fact, if both players can stay loyal to each other, they will achieve outcome (3,3) rather than outcome (2,2).

3.1.2. Static game with government intervention

Nash equilibrium of a static game between the worker and the employer is a low-level equilibrium in which both players tend to maintain the status quo. What will happen if the government also intervenes in the labor market and enters the game? Can the government direct the game from a low-efficiency equilibrium to a high-efficiency equilibrium?

The role of the government in the economy became more prominent after the Great Depression of 1929 and Keynes' views about the greater intervention of the government. In Iran, from the beginning of the development programs, the government has played a significant role in guiding economic activities and

has always had a heavy shadow over the markets in the country's economy. The labor market is also one of a variety of markets that have not been immune to the government's intervention. Reducing unemployment and creating more occupation opportunities is one of the most important goals of various states in Iran during the past years. Reviewing the performance of the government in development programs shows that the government has not succeeded in achieving the goals of the programs.

Here, the government is assumed to be playing as a player, and simultaneously, together with the worker and the employer, chooses a strategy. In order to define government strategies, we must first understand the goals of the government. The government must achieve the goals of development programs. It is assumed that the unemployment rates and per capita income are different from those defined in the development program. This difference means that the goals of the program are not fulfilled, which is not desirable for the government. Hence, the government is looking for a way to not only increase per capita income but also lower unemployment. The solution that the government finds for this is to set the minimum wage above the wages paid to the workers and force the employer to pay the wage. If this decision is made, the purchasing power of the workforce will increase, and the labor force can cover more costs of living. In this case, the workers' mental concerns also decrease, and they can work with more concentration and more peace of mind, which may also lead to increased production and profitability of the firm. By increasing profits, the firm develops its business to make more profit; it invests more and recruits more. As the process continues, not only will the incomes of workers in the whole society, as well as per capita income, increase, but more employment will also be created, and unemployment will decrease. Thus, the government will be able to achieve its goal.

On the contrary, it is likely that even with the increase in wages, the work force will not increase

its efforts and productivity, and only employer costs will increase owing to a rise in wages. In this case, the employer will be forced to expel a number of workers. With the dismissal of workers by enterprises, unemployment will increase, and the labor market will get worse, which is not politically acceptable for the government.

However, the government's decision to raise the minimum wage would be risky. Therefore, the government must accept the risk of social and political moves to change the current situation. Moreover, the government can tolerate the current situation and decide not to change production and per capita income. So, the government has two choices (or strategy): the decision to change the status quo (strategy C) or to be satisfied with the current situation (strategy K).

The set of government (G) strategies is as follows:

$$S_G = \{C, K\} \quad (9)$$

If any of the players wants to think and evaluate the game results, then they should consider the possible scenarios. From the perspective of each player, there are six situations, which are the following:

1. Chooses strategy C and the other two players both choose C.
2. Chooses strategy K and the other two players both choose C.
3. Chooses strategy C and the other two players both choose K.
4. Chooses strategy K and the other two players both choose K.
5. Chooses strategy C and one of the players chooses C and the other chooses K.
6. Chooses strategy K and one of the players chooses C and the other chooses K.

We can use the numbers 1 to 6 to rank the possible results for each player, so that the best situation is represented by the number 6 and the worst case by the number 1. The worst case for each player is when he chooses strategy C and the two other players both choose strategy K (situation 3). If this happens to the employer, its costs will increase (by raising wages) without increasing its production, and earnings will be less than before. If this happens

to the worker, he works more without a raise in his wages. If the government chooses strategy C, and the worker and the employer both choose strategy K, then the government adopts a policy that has no positive consequences, in which not only the program's goals will not be realized, but the government will also incur the costs of adopting the policy. This situation is valued for every player by the number 1.

The best situation for each player is when he chooses strategy K and the two other players both choose C (situation 2). In this case, the employer achieves higher profits without raising costs, as the worker increases his productivity, and the government also seeks to change the status quo and meet the goals of the development plans to help the firm increase its production. If this happens to the worker, he will be able to earn more wages and achieve a higher level of welfare with the same effort. If the government chooses strategy K, and the worker and the employer both choose C, the government can achieve the goals of the program without any risk. This is the case for all three players with number 6.

If all three players choose strategy C (situation 1), the employer will profit more, the worker will pay more, and the program's goals will be met, but because choosing this strategy is with risk, this situation will cost all three players. In addition, it is more expensive than situation 2. This situation is indicated by number 5.

Of the remaining three modes, mode 6 is preferred for each player. Therefore, the result of this situation is indicated by number 4. Although it costs all three players, they prefer the fifth situation to the fourth. As a result, situations 4 and 5 are ranked with numbers 2 and 3, respectively.

We can represent the strategic form of the game among the worker, employer, and government as follows:

The set of players

$$N = \{E, W, G\} \quad (10)$$

2. The set of strategies

$$\begin{aligned}
 S_E &= \{C, K\} \\
 S_W &= \{C, K\} \\
 S_G &= \{C, K\} \\
 S &= S_E \times S_W \times S_G \\
 &= \{C, K\} \times \{C, K\} \\
 &\quad \times \{C, K\} \\
 S & \\
 &= \{(C, C, C), (C, C, K), (C, K, C), (C, K, K), (K, C, C), (K, C, K), (K, K, C), (K, K, K)\}
 \end{aligned}
 \tag{11}$$

$$\begin{aligned}
 u_E(C, K, C) &= 3 & u_W(C, K, C) &= 6 & u_G(C, K, C) &= 3 \\
 u_E(C, K, K) &= 1 & u_W(C, K, K) &= 4 & u_G(C, K, K) &= 4 \\
 u_E(K, C, C) &= 6 & u_W(K, C, C) &= 3 & u_G(K, C, C) &= 3 \\
 u_E(K, C, K) &= 4 & u_W(K, C, K) &= 1 & u_G(K, C, K) &= 4 \\
 u_E(K, K, C) &= 4 & u_W(K, K, C) &= 4 & u_G(K, K, C) &= 1 \\
 u_E(K, K, K) &= 2 & u_W(K, K, K) &= 2 & u_G(K, K, K) &= 2
 \end{aligned}$$

3. Players' payoffs

$$\begin{aligned}
 u_E(C, C, C) &= 5 & u_W(C, C, C) &= 5 & u_G(C, C, C) &= 5 \\
 u_E(C, C, K) &= 3 & u_W(C, C, K) &= 3 & u_G(C, C, K) &= 6
 \end{aligned}
 \tag{12}$$

The game can be written in the form of a matrix, in which the player G (government) is shown as a page, and each page corresponds to a player's strategy.

1. Player G chooses strategy C:

Table 2: Static game among players, if the government chooses strategy C

		Player (W)	
		C	K
Player (E)	C	5,5,5	3,6,3
	K	6,3,3	4,4,1

Reference: Research calculations

2. Player G chooses strategy K:

Table 3: Static game among players, if the government chooses strategy K

		Player (W)	
		C	K
Player (E)	C	3,3,6	1,4,4
	K	4,1,4	2,2,2

Reference: Research calculations

In Tables 2 and 3, the first number to the right is the payoff of player E (employer), the middle number is the payoff of player W (worker), and the number on the left side is the payoff of player G (government).

The Nash equilibrium can be found through the best response. To do this, we obtain the best responses of each player to the opponent's strategies.

1. The best responses of player E:

$$\begin{aligned}
 B_E(s_{-E} = (C, C)) &= K & B_E(s_{-E} = (C, K)) &= K \\
 B_E(s_{-E} = (K, C)) &= K & B_E(s_{-E} = (K, K)) &= K
 \end{aligned}
 \tag{13}$$

2. The best responses of player W:

$$\begin{aligned}
 B_W(s_{-W} = (C, C)) &= K & B_W(s_{-W} = (C, K)) &= K \\
 B_W(s_{-W} = (K, C)) &= K & B_W(s_{-W} = (K, K)) &= K
 \end{aligned}
 \tag{14}$$

3. The best responses of player G:

$$\begin{aligned}
 B_G(s_{-G} = (C, C)) &= K & B_G(s_{-G} = (C, K)) &= K \\
 B_G(s_{-G} = (K, C)) &= K & B_G(s_{-G} = (K, K)) &= K
 \end{aligned}
 \tag{15}$$

The best response of each is indicated by a line under the payoff of that player in Tables 2 and 3. The strategy profile (K, K, K) is the Nash equilibrium of this game.

The equilibrium outcome states that all three players tend to maintain the status quo, although this outcome does not have the most payoffs for them. This means they prefer their short-term interests to long-term interests. This equilibrium is the equilibrium in low productivity. An economy with low labor productivity can never achieve its development goals. Low productivity results in lower per capita income, followed by a decline in purchasing power and lower demand, resulting in a deep recession and a lack of sufficient investment and, consequently, a low level of productivity. In other words, the production process is caught in a vicious circle, which results in economic backwardness.

3.2 Dynamic Game

3.2.1 Dynamic game when the government does not intervene in the market

In the static game, all players choose at the same time, whereas in the dynamic game, each player chooses his strategy after the other player's move. In the dynamic game between the worker and the employer (without government intervention), it is assumed that the employer starts the game. He initially chooses one of the strategies of changing

the status quo or keeping the status quo, and then the worker selects a strategy by observing the employer's moves.

From the perspective of each player, four situations can be considered:

1. Player *i* chooses strategy K and player *j* chooses Strategy C.
2. Player *i* chooses strategy C and player *j* chooses Strategy K.
3. Both players choose strategy K.
4. Both players choose strategy C.

These situations are rated from 1 to 4, where number 1 shows the worst situation and number 4 shows the best situation for each player. The best situation for each player occurs when he chooses the strategy of keeping the status quo (i.e., strategy K) and the opponent chooses the strategy of changing the status quo (i.e., strategy C). In this case, the player achieves his goal (increased profit or utility) without enduring any cost or risk. Therefore, situation 1 is evaluated for each player with number 4. The worst situation occurs when the player chooses strategy C and the opponent chooses strategy K, because in this case, not only does the player not aim at his goal but he also incurs risks and costs. So, we rate situation 2 with number 1. Given that both players tend to change the situation even in the face of risk, they prefer to change the existing situation with risk (if both players want to change) to maintain the status quo. So, situation 4 is evaluated with number 3 and situation 3 with number 2.

The extensive form of the dynamic game between the worker and the employer, assuming there is no government intervention in the labor market, is presented in Figure 3. In this figure, it is assumed that the employer starts the game. One must exercise care regarding how the situations for the players are rated; even if the worker starts game, the outcome of the game does not differ.

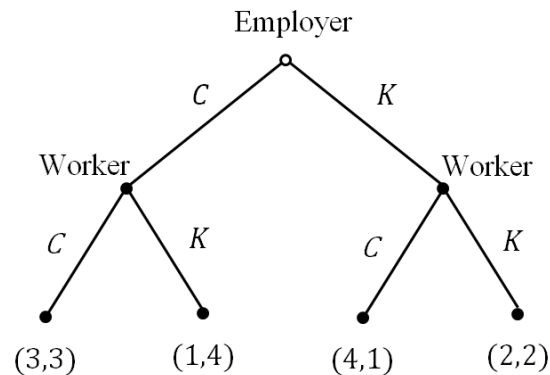


Figure 3. Dynamic game between the worker and the employer, without government intervention

In Figure 3, if the employer chooses strategy C, then the worker chooses strategy K because this strategy has a higher payoff than strategy C ($4 > 3$). Therefore, the Nash equilibrium of the left sub-game is strategy K by the worker. The choice of this strategy will reduce the employer's payoff to 1. On the contrary, if the employer chooses strategy K, then the worker, observing the employer's move, chooses strategy K (with valuation 2) because it has a higher payoff than strategy C (with valuation 1). So, the Nash equilibrium of the right side of the game is also strategy K by the worker. In this case, the employer will gain a payoff of 2. By comparing this payoff with the payoff derived from the Nash equilibrium of the left sub-game (i.e., 1), the employer chooses a higher-valued strategy, that is, strategy K. As a result, the sub-game perfect equilibrium is as follows:

"The employer chooses strategy K in the first stage, and then, in the second stage, the worker observing the employer's move, will choose strategy K."

The equilibrium achieved in this dynamic game, like the static game, is low-level productivity equilibrium.

3.2.2 Dynamic game assuming government intervention

Consider the circumstances in which the government becomes a player in the game between the worker and the employer. In this case, can the government affect and improve the equilibrium of

the game between the worker and the employer, which has a low level of productivity? To answer this question, the rules of the three-player game must be clearly defined and the various situations facing each player must first be assessed.

For each player, four situations can be considered as follows:

- 1) Player chooses strategy K and the two other players choose strategy C.
- 2) Player chooses strategy C and one or both other players choose strategy C.
- 3) Player chooses strategy K and one or both players choose strategy K.
- 4) Player chooses strategy C and both of the other players choose strategy K.

For each player, there are only 4 situations; therefore, the scenarios are rated from 1 to 4, where 1 means the worst and 4 means the best situation for each player. The best situation for each player is situation 1 because the player achieves whatever he wants without taking risks and costs. This situation is then evaluated with number 4. The worst case is situation 4, in which the player takes the risky strategy and at the same time does not achieve his goal. Between situations 2 and 3, situation 2 is better than 3 because although the player chooses a risky strategy, he achieves what he wants. Therefore, this situation is rated with number 3. Situation 3 is therefore rated with number 2 and states that although the player has not reached his goal, there is no risk for him.

The extensive form of the worker-employer-government dynamic game in the labor market is shown in Figure 4. As the game is conducted dynamically, players decide their moves successively. The government is supposed to start

the game at first, then the employer chooses his strategy, and eventually, the worker must finish the game. One must exercise care regarding how the situations for the players are rated; no matter which player starts the game, the outcome does not differ.

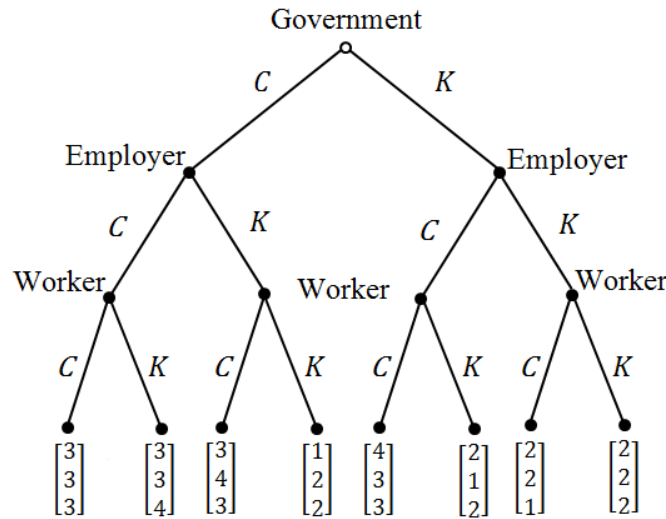


Figure 4. Dynamic game among worker-employer-government

In Figure 4, the upper number shows the government's payoff, the number in the middle shows the employer's payoff, and the lower number shows the worker's payoff. The sub-game perfect Nash equilibrium is obtained through backward induction. In Sub-game Perfect Equilibrium (SPE) of this game, the government will choose strategy K, the employer will choose strategy C, and the worker will choose strategy C. Of course, no matter which player starts the game, the same result would be achieved; if the first player is reluctant to change the status quo, the other two players still choose the strategy of changing the status quo. These results come with the assumption that the risk level of the three players is the same. If the government is supposed to have more risk-taking power than the other two players and will want to change the status quo (strategy C), then the employer will choose strategy K and the worker will choose strategy C. Even then, one of the players chooses strategy K and the rest choose strategy C. In fact, the outcome of the game is that one of the players will definitely

choose strategy K. In other words, if the government chooses strategy K, the two other players will choose strategy C, and if the government chooses strategy C then the employer chooses strategy K and the worker chooses strategy C. Of course, if the government chooses strategy K, production will get better, because if the two other players (i.e., employer and worker) choose strategy C, the incentive for the worker and the employer will increase, which will lead to higher production and national income.

The equilibrium achieved in a dynamic game among the worker, employer, and government is better than the equilibrium achieved in a dynamic game between the worker and the employer. In addition, the sub-game perfect equilibrium of the dynamic game among three players in the labor market is better than the Nash equilibrium achieved in the static three-player game. In both the dynamic two-player game and the static three-player game, players tend to maintain the current situation and shape low-level productivity equilibrium. In such a

situation, the level of productivity and production is not very favorable, and the lack of mobility and dynamism in the labor market leads to lower levels of production and investment in manufacturing enterprises. However, in the three-player dynamic game, the equilibrium will improve, the worker will increase his productivity, and the employer will increase his profit. By paying part of his profits as a worker's salary, the employer actually decreases the workers' mental concerns and raises his concentration, which causes the worker to increase his efforts to increase production and thus increase the employer's profit, and this cycle continues. In dynamic equilibrium, the government chooses the same strategy that it had chosen in the static game, but because the game is played sequentially, the outcome of the game differs from that of the static game.

4. CONCLUSION

The current conditions of the Iranian economy and its encounter with various issues such as unemployment and recession led the authors to look for the root causes of these problems; therefore, the labor market survey was targeted. The labor market is very important in terms of structure. An economy with a healthy job market will not face structural problems in other markets. However, if the labor market is faced with a problem, it will affect all markets and make them even more inefficient. If labor productivity is low, production will be low, and low production will reduce profits, lead to lack of investment, and lower wages of the labor force, which, in turn, will reduce labor productivity. Therefore, vicious cycles are formed, resulting in stagnation and decline of the economy.

The main purpose of this study was to investigate the relationships among the actors who created demand and supply in the labor market, namely the worker and the employer. Of course, the behavior of the third factor (i.e., the government, which is very influential on this market) has been analyzed. The worker and the employer are always struggling to divide profits from the sale of goods, because

providing one's interests is in contradiction with the other's interests. To analyze such a situation, a tool was needed to analyze labor market relations in situations of conflict. Game theory is the best tool for solving such issues.

In this paper, the factors affecting the labor market in both static and dynamic situations, with the assumption of intervention and non-intervention of the government in the market, were analyzed. For each player, two strategies called changing the status quo and keeping the status quo are defined. Choosing a strategy to keeping the status quo is risk-free and cost-effective and in the same direction as the short-term interests of the players. However, the strategy of changing the status quo has risks and costs but was defined to be in the same direction as long-term interests of the players. If the players had selected the strategy of changing the status quo, the economy would probably have been out of recession. The status quo for the employer was defined as low profit, for worker as low wages, and for government as low per capita income and high unemployment. To solve the game of the labor market and compare different scenarios, four different games on the market were assessed: a static game of employer and worker without government intervention; a static game of the worker, employer, and government; a dynamic game of worker and employer without the presence of the government; and a dynamic game of the worker, employer, and government.

In the static two-player game between worker and employer (without government intervention), both players choose the strategy of keeping the status quo in equilibrium, which is a low-productivity equilibrium. This equilibrium is achieved in the static game among the worker, employer, and government, and the three players choose the strategy of keeping the status quo as it is. The sub-game perfect equilibrium of dynamic game between worker and employer (without the presence of the government) also represents an equilibrium with low productivity, and in this type of game, the worker and the employer will choose

the strategy of keeping the status quo. However, in the dynamic game among three players, the conditions will change. In this game, the player starting the game tends to keeping the status quo, but the other two players both choose strategies of changing the status quo. Therefore, if the government starts the game, the best possible situation in the economy will be formed because, on the one hand, the government will be able to increase per capita income without bearing risk, and, on the other hand, production, productivity, and wages will increase. In this case, it can be concluded that the worst situation in the economy is when the worker starts the game.

One of the reasons for achieving a low productivity level in the games above is the uncertainty of the strategy of other players. In fact, no player wants to accept the risk of choosing the strategy of changing the status quo, and thus chooses a risk-free strategy (i.e., keeping the status quo). The labor market in Iran has a number of structural weaknesses; if some were eliminated, the labor market would be better. Some of these weaknesses are the lack of work morale, the absence of labor unions in support of workers' rights, inappropriate policies of the government in the domestic and international arenas, lack of due attention to workers by employers, especially in social security, and so on. For example, if all workers decide to increase their productivity and increase the company's production, then the firm will not be able to ignore this labor movement because of a strong labor force (i.e., the union) and will have to pay them more wages.

In sum, achieving equilibrium with high productivity in the labor market requires the coordination of all the factors affecting this market, and if there is not just one factor, the other factors will lose this motive. The most important step is for the government to build partnerships, increase working spirit, improve mutual trust, and adopt the right policy.

Appendix

Game theory is a mathematical tool for analyzing situations in which the behavior of individuals is influenced by others and their profits depends on each other's decisions. There are several basic concepts in game theory, which will be briefly mentioned here.

Definitions

- **Player:** Individuals involved in the game are called players. The players are supposed to be wise people who remember all the events that happened in the past. The goal of each player is to play the game and select an action, maximize its payoff according to the game's conditions.

- **Strategy:** Action sets of players in the game called strategy. In simultaneous-move games, the concept of action (or movement) is the same with strategy, but in sequential-move games, these two concepts are not the same and the strategy consists of a set of player moves (or actions).

- **Outcome:** Each outcome includes a set of strategies for all the players in the game, which is determined after the game finishes.

- **Payoff:** Each player's payoff includes the benefits he earns from each outcome of the game.

Games are generally divided into two categories, co-operative games and non-cooperative games. In co-operative games, players co-ordinate each other to maximize their payoff, while in non-cooperative games, players will maximize payoffs without coordinating each other. The emphasis of this article is the non-cooperative games.

Non-cooperative games are divided into two main groups of simultaneous-move games (or static games) and sequential-move games (or dynamic games). Static games mean games that players choose to move at the same time or without knowing the rival movement. In dynamic games, time is entered into the model and the players pick their moves in their particular order. Usually static games are represented in the strategic (normal or

matrix) form and dynamic games are represented in the extensive form.

Static and dynamic games are also divided into two major categories of games with complete information and games with incomplete information. Games with complete information refer to games in which players have all information about the movements of other players and their payoffs from the beginning of the game. In contrast, games with incomplete information are games in which at least one player does not have information about the actions of some players and their payoffs in some outcomes.

Equilibrium

Game theory is a set of tools for predicting outcomes of a group of interacting factors that affects each other's payoffs (Shy, 1995). The concept of equilibrium is very broad. In fact, different concepts of equilibrium are proposed for different games, but in general, equilibrium can be defined as a set of strategies that represent the best response to each other. In relation to any type of game, a new concept of equilibrium is defined.

Normal form

The normal form presentation of game includes:

1. The set of players: We represent the set of players with N and if a game contains n players, the set of players will be as follows:

$$N = \{1, 2, \dots, n\} \tag{16}$$

2. The set of strategies: The number of strategies for each player is called the strategy set by that player. We show the set of strategies for player i with S_i . If player i has k strategies, then it can be written:

$$S_i = \{s_1^i, s_2^i, \dots, s_k^i\} \tag{17}$$

The set of strategies of the game (with n player) is represented by S and consists of:

$$S = S_1 \times S_2 \times \dots \times S_n \\ = \{(s_1^1, s_1^2, \dots, s_1^n), \dots, (s_k^1, s_k^2, \dots, s_k^n)\} \tag{18}$$

3. The payoffs: Each player's payoff is subject to the player's and his opponent's strategies. We will

show the player i 's payoff with u_i and define it as follows:

$$u_i: S \rightarrow R \quad \forall i \in N \tag{19}$$

Hence, the normal form of a game can be written as follows:

$$G = \{S_1, S_2, \dots, S_n; u_1, u_2, \dots, u_n\} \tag{20}$$

Nash equilibrium

In the theory of games, it is assumed that players are wise, that is, their chosen strategy is in a direction with their own interests. As a result, the decision of a player comes as follows:

$$\max_{s_i \in S_i} : u_i(s_i, s_{-i}) \tag{21}$$

In which s_i is the player i 's strategy and s_{-i} is the strategy profile of all players (except player i).

In Nash equilibrium each player's choice have maximum payoff to player with respect to opponent's choices. Furthermore, the player's belief about the strategy profile of other players is correct. The Nash equilibrium has a major feature and that is the choice of players does not necessarily result in more payoffs.

Nash equilibrium is mainly based on the best response. The best response of player i in a game in the form of normal form is defined as follows:

$$B_i(s_{-i}) \\ = \{s_i \in S_i : u_i(s_i, s_{-i}) \\ \geq u_i(s_i', s_{-i}) \quad \forall s_i' \in S_i\} \tag{22}$$

For each $s_{-i} \in S_{-i}$ there is a set $B_i(s_{-i})$ that may be a single-member set or greater (Gibbons, 1992).

Game tree

Dynamic games are games in which players move sequentially; that is, each player must make his choice after observing the previous player move. Dynamic games are usually presented by extensive forms (game tree). In brief, the components of the game tree can be summarized as follows:

1. Initial node: The node that represents the beginning of the game. This node is represented by a hollow circle.
2. Decision nodes: The nodes represent the starting point of each player's decision in the game. Each decision node represents the player's turn.

3. Final nodes: The nodes representing the end of the game, in which the players' payoffs are displayed in terms of their order of movement in the game tree.

4. Branches: Each non-final node may have multiple branches, each branch representing a move for the player moving on that node. Each branch may end with a final node or another decision node. In Figure 1, a game tree is shown with all its components. In the figure, player 1 starts the game and the decision node of him (initial node) is the primary node of the game, which is a hollow circle. The initial node has two branches with the names A

and B, which indicate the player's choices in the game. After player 1 chooses his strategy, player 2 will choose his strategies. In this game, player 2 has two decision nodes that correspond to the player 1 moves. After player 2 chooses one of the strategies C or D, the final nodes will come out and the game will end. The payoff of each player is written down all the final nodes. The player 1's payoff is the left-hand side number and the player 2's payoff is the right-hand side number. For example, if player 1 chooses strategy B and player 2 chooses strategy D, then the player 1's payoff is 3 and the player 2's payoff is 4.

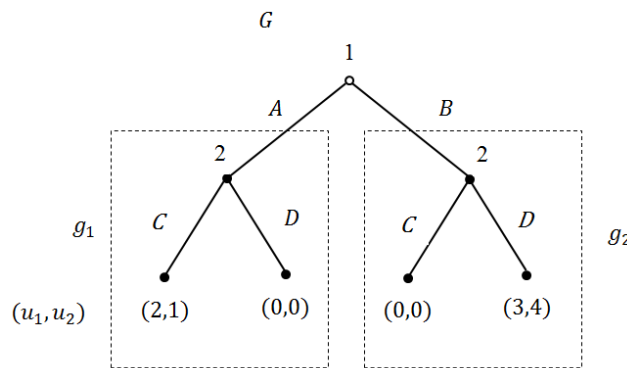


Figure A1. Game Tree

Sub-game perfect equilibrium (SPE)

To find the equilibrium in dynamic games, the SPE method is used. In this method, the whole game is divided into several sub-games. Every sub-game is a formidable game and is part of the original game. The players of each sub-game are the players of the original game. The whole game is also considered a sub game. In Figure A1, the sub games are g_1 , g_2 , and G ; of course, G is the original game.

The sub-game perfect equilibrium for games of complete information is obtained through backward induction. To find the SPE of the game, first start with the last sub-games that end up in the final nodes (for example, g_1 and g_2 in figure 1) and find the equilibrium of these sub-games. Then, we back one step and find the equilibrium of sub-game

before it, and so we go from the tree up to the tree to find the last sub-game (or the original game). The Nash equilibrium of the biggest sub-game is the SPE of the game.

REFERENCES

- Al-Badavi, A & Alijani, F (2007), "Does electronic learning improve labor productivity?", *Sharif Journal*, (43), 31–37.
- Araujo, R. and Souza, N. (2010). "An evolutionary game theory approach to the dynamics of the labour market: A formal and informal perspective". *Structural Change and Economic Dynamics*, (21) 2, 101–110.
- Benjamin, D. (2015). *A Theory of Fairness in Labor Markets*. [Electronic version]. Retrieved [insert date] from *Cornell University*.
- Chen, B. (2019). "Downstream competition and upstream labor market matching". *International Journal of Game Theory*, 48(4), 1055–1085.

- Dufwenberg, M and Kirchsteiger, G (2000). "Reciprocity and Wage Undercutting ". *European Economic Review*, (44) 1069–1078.
- Flesch, J, Schoenmakers, G and Verieze, K (2009), "Stochastic Games on a Product State Space", *International Journal of Game Theory*, (38), 263–289.
- Gibbons, R (1992), "Game Theory for Applied Economists", *Princeton University Press*.
- Jones, D.C. Simon, K,I(2005), "Wage determination under plan and early transition:Bulgarian evidence using matched employer–employee data". *Journal of Comparative Economics*, (33), 227–243.
- Komeijani, A & Memar Nejad (2004), "The importance of the Quality of Labor and R&D in Economic Growth", *Trade Research Journal*, (31), 1–31.
- Mahmoudzadeh, M & Asadi, F (2007), "Impacts of IT on the Growth of Labor Productivity in Iranian Economy", *Trade Research Journal*, (43), 153–184.
- Mitrou, L. Karyda,M. (2006) "Employees' Privacy vs. Employers' Security: Can They Be Balanced?". *Telematics and Informatics*, 23, 164–178.
- Mohammadi, T & Akbari Fard, H (2008), "The Effects of Productivity Shocks on Economic Growth of Iran", *Economic Researches of Iran*, (35), 177–204.
- Rabiee, M (2009), "The Effects of Innovation and Human Capital on Economic Growth", *Knowledge and Development Journal*, (26), 122–142.
- Osborne. M & Rubinstein. R (1994) "A Course in Game Theory", *The MIT Press*
- Sadeghi, H & Brumand, Y (2012), "Analysis of Relationship Among Employee, Employer and Government Based on Game Theory", *Economic Research Journal*, (98), pp 51–67.
- Shy, O (1995), "Industrial Organization : Theory and Applications", *The MIT Press*
- Wang Guo-jun(2008)"A game-theoretic model of the participants in the rural migrant workers' work-related injury insurance system". *Journal of US-China Public Administration*, (5), 52–56.

Public awareness, involvement, and practices in electronic waste management in Addis Ababa, Ethiopia

Abenezer Wakuma Kitila^{1*}, Solomon Mulugeta Woldemikael²

¹Department of Geography and Environmental Studies, College of Social Sciences and Humanities, Haramaya University, Dire Dawa, Ethiopia.

²Department of Geography and Environmental Studies, College of Social Sciences, Addis Ababa University, Addis Ababa, Ethiopia.

* Corresponding author: 57662746@mylife.unisa.ac.za

Received: 19/07/2019

Accepted: 19/02/2020

Available online: 30/06/2020

ABSTRACT

Following the upsurge of technological developments escorted with scale economies, the electronic industry has decidedly grown and brought along one of the major environmental problems known as electronic waste or e-waste. The objective of this study is to examine the public's awareness about e-waste and their engagement level in e-waste management practices. Data were gathered both from primary and secondary data sources. A total sample of 100 respondents were selected from Bole and Nefas Silk Lafto sub-cities. In addition, a total of 72 sample respondents were selected from educational institutions and government sector offices. Data were analyzed using statistical methods such as mean, percentage, chi-square test, and ordinal regression model. The findings discovered that households' level of awareness about e-waste and its management was much lower than the general service department personnel. Evidently, the ordinal regression model output revealed differences in many aspects of e-waste-related activities between the households and the institutions. E-waste is considered and treated like other types of municipal solid wastes. It is ostensible that there were newly purchased electronic equipment that were not yet serviceable because of the absence of manuals, their sizes and designs, and lack of knowhow. Therefore, in view of these veracities, the study discernibly highlighted the implications of the existing status and suggested certain recommendations to raise public awareness about-waste to reduce the impacts on environment and human health.

Keywords: electronic equipment; e-waste; e-waste management; practices; public awareness

1. INTRODUCTION

Following the outburst of technological developments escorted with scale economies, the electronic industry has decidedly grown and brought along one of the major environmental

problems known as electronic waste or e-waste. Particularly, in the developing countries, e-waste management is a much more terrible challenge owing to factors such as lack of proper infrastructure, weak enforcement of laws, and low awareness among citizens (Baldé et al., 2015). It is evident that increasing storage-stockpiles and e-waste production levels are indicators of the limited success of reuse, refurbishment, and recycling efforts in developing countries. In addition, associated with an increase in the affordability of new products and advanced technologies, it is

Access this article online

DOI: 10.25079/ukhjss.v4n1y2020.pp21-36

e-ISSN: 2520-7806

Copyright © 2020 Kitilia and Woldemikael. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).

easier for the people to purchase rather than repair, thus leading to the disposal of the obsolete equipment (Arora, 2008). The problem is aggravated by the continuing generation of e-waste at an alarming rate in developing countries. A study by Yu, *et al.* (2010) estimated that by 2017 developing countries will start to generate more electronic waste than developed countries.

Improper management and disposal can be awfully hazardous for the environment and health. Where there is lack of policy, e-waste legislation, and weak protections, incorrect practices of e-waste management and disposal occur at landfill sites, and illegal dumps have posed a threat to human and environmental health (Kiddee *et al.*, 2013; Baldé *et al.*, 2015). Besides, Baldé *et al.*, (2017) asserted that the increasing levels of e-waste, improper and unsafe treatment, and disposal through incineration or in landfills pose significant challenges to the environment and human health and to the achievement of the Sustainable Development Goals.

Likewise, there is low public awareness toward the hazardous nature of e-waste and the rudimentary waste management methods practiced in developing countries. Besides, it is realized that there are poor data on how much e-waste is generated and where, and to where it is exporting. This condition is aggravated by the recent system of information collection, in which second-hand, old, and non-functional products are imperceptible to national statistics on production, sale, and trade in goods (Lundgren, 2012).

The challenges of solid waste management have been growing all over Ethiopia by leaps and bounds in the recent past. Since Ethiopia has adopted a pathway to progress, exploring Information and Communication Technology (ICT) possibilities, e-waste or the waste generated out of electronic and electric gadgets have emerged as major constituents of solid wastes in urban Ethiopian. The gradual but conspicuous growth of e-waste demands early, planned strategies for dealing with it. Improper e-

waste management is an escalating problem all over Ethiopia, but eluding necessary attention (Gudeta *et al.*, 2015). A report from United Nations University (UNU)-hosted Solving the E-waste Problem (StEP) initiative indicate that about 4,300 tons of televisions, computers, mobile phones, and refrigerators are stored in major urban centers of Ethiopia, particularly in Addis Ababa. Furthermore, the report asserted that e-waste treatments have been carried out improperly, while a huge volume e-waste is simply stored in offices and homes as assets rather than as electronic waste that need to be discarded (UNU, 2013).

In order to obtain an in-depth understanding of the matter, the researcher attempted discussing the issue with various government officials and inhabitants of the city. In the course of those informal discussions, it was presumed that there were tons of e-waste kept on the premises of residential units, educational institutions, governmental offices, and business organizations. The discussions also revealed that the concerned householders, officers, managers, and ICT experts have been discussing the issue informally. For instance, they posed questions like “why did e-waste increase?”; “How could it be managed?”; “Who are the stakeholders in managing e-waste?”; “Is there any regulatory framework to manage e-waste?” Therefore, it can be understood from these emerging questions that the efforts made toward e-waste management in the city were far from adequate. With this understanding, this study was conducted to examine what is really on the ground and the major activities performed in relation to e-waste management in the city of Addis Ababa.

By its nature, the disposal of e-waste is more complicated than normal household waste because of its hazardous content and is more than just lack of space as commonly the case is with solid waste management. Lack of appropriate facilities, weak enforcement of (or lack of) law and regulation, and low level of awareness among the society may lead to indiscriminate or improper disposal (such as

disposing of e-waste together with household's solid waste) (Tengku-Hamzah, 2011; Chibunna *et al.*, 2012).

The other challenges are associated with lack of skill and knowledge toward the handling and treatment of e-waste. In this regard, Tyagi *et al.* (2015) admitted that informal sector is managing the major e-waste in India. The collection has been done by the local scrap vendors. After collection, recycling process involves segregation and dismantling the products. Primitive techniques are used in this process, which may include (i) disassembling of electronic equipment; (ii) heating or manual dismantling of printed circuit boards; (iii) recovering metals by opening or cutting cables; (iv) breaking or melting plastics; (v) toner sweeping; and (vi) metal recovery by open-acid leaching of e-waste. The author points out that most of the scrap vendors are not much educated; moreover, the people working under them are also not skillful and educated. They also do the repair and refurbishment of old products, which will be sold in second-hand market. They just use their older and traditional illegal methods of burning the products to extract the metals – in many cases, they are not aware of the health risks involved.

Studies show the challenges identified with (i) the low level of resident consciousness on the unsafe effects of e-waste on the environment, their wellbeing, and protection (ii) the government sector offices managing waste administration have constrained ability to manage e-waste administration and are not working in an organized way that could assemble cooperative energy. E-waste administration has not been given the attention it merits among government authorities and (iii) insufficient assets and duty toward tending to the issues and difficulties related with it, and (iv) satisfactory formal training has not been given to the issues of WEEE administration (Otieno and Omwenga, 2015).

Also, Lundgren (2012) featured that there is by and large low public familiarity with the perilous idea

of e-waste and the unrefined waste administration methods utilized as a part of developing nations. It was confirmed that data toward electronic waste management are lacking particularly on the volume of e-waste produced and the sources and on where it is going to. The same author further admitted that this condition is exacerbated by the present information gathering system, in which utilized, second-hand, and waste products are all things considered, undetectable to national insights on generation, deal, and exchange goods.

The aim of this study is to examine the awareness and engagement level of people in e-waste management practices based on the data gathered from household heads of Bole and Nefas Silk Lafto sub-cities and general service department workers of the educational institutions and governmental sector offices.

2. RESEARCH METHODS

The study employs both descriptive and explanatory type of research design. It utilizes both primary and secondary data sources to acquire relevant information that is required to analyse, discuss, and present the data. The primary data sources were acquired through questionnaire surveys and in-depth and semi-structured interviews. On the other hand, the secondary data sources used in this study were obtained through review of documents, books, websites, conference papers, journals, and relevant published and unpublished materials. The researcher had purposively selected two sub-cities namely Bole and Nefas Silk Lafto (NSL), eight Private Educational Institutions (PREIs), eight Public Educational Institutions (PUEIs), and eight Governmental Sector Offices (GSOs). With regard to the selection of study participants, the study employs both probability and non-probability sampling techniques. Through systematic random sampling, 100 household heads (HHs) were selected from two sub-cities; Bole and Nefas Silk Lafto. On the other hand, key respondents for this

research were selected based on their intimate links with the issue under investigation and they were specifically approached as ‘key informants’ named as General Service Department (GSD). Then, three GSD personnel from each of the Educational Institutions (EIs) and GSOs were included in the study. This constitutes seventy-two (72) sample respondents, of which 48 were selected to fill the questionnaires while 24 interviewed. Finally, six (6) Higher Governmental Organizations (HGOs) were purposively selected in filling the questionnaire and interviews. The analysis constitutes both descriptive and inferential statistics.

3. RESULTS AND DISCUSSIONS

3.1 Awareness of e-waste and its management in Bole and NSL sub-cities

The term e-waste was first introduced in the 1970s and 1980s following the onset of environmental degradation that was caused by the hazardous products that were imported into developing countries (Otieno and Omwenga, 2015). Electronic waste is a new, rapidly growing waste, and its concept is not widely understood by the people and governments. In developing countries, wider emphasis has been given to other types of wastes such as municipal, domestic, and other industrial wastes than to e-waste management.

Borthakur and Sinha (2013) disclosed that most of the consumers are unaware of the impacts of improper disposal of e-waste and continue to discard their end-of-life appliances with regular household waste. On the other hand, Tengku-Hamzah (2011) has also asserted that the low level of awareness among the society has been considered as one of the challenges in e-waste management. The same author found that “low level of awareness among the society may lead to indiscriminate or improper disposal such as disposing of e-waste together with household’s solid waste.” Furthermore, NCHEWM (2013) proclaimed that many people do not understand

what it is or how it affects them, the world, or the environment.

In view of this, the study examined the awareness level of the HHs of electronic waste and its management in two purposively selected sub-cities of Addis Ababa. To this end, the data were acquired from 100 HHs through questionnaire surveys. Accordingly, the results of the study revealed that the HHs’ awareness of electronic waste and its management was low. These include awareness of e-waste, amount of e-waste, the environmental and health impacts of e-waste, local or international laws and activities governing e-waste, and safe disposal of e-waste. Majority of the respondents were not aware of the concepts and activities regarding electronic waste.

More explicitly, the respondents’ awareness about what it meant by e-waste or about the meaning of e-waste revealed that the majority of the respondents in both the sub-cities (60%) were familiar with the term e-waste, while, (23%) and (17%) do “not” know e-waste and are “uncertain” about e-waste, respectively. It was found that being familiar with the term e-waste was not associated with the educational status of the households, hence, in the X^2 test result $p > 0.05$. On the other hand, it was revealed that the majority of the households were “not” conscious of the volume of e-waste they generated while 30% were uncertain about it. As far as the respondents’ awareness of the environmental impacts of e-waste is concerned, the majority of the sample respondents were not aware of the environmental impacts of e-waste. Besides, the study found a significant difference between the respondents based on their educational qualifications in responding to this question. The X^2 test result (23.334, and $p = .010$), $p < 0.05$, was statistically significant that the educational status of the respondents influences their awareness in understanding the impact of e-waste on the environment. Hence, more educated respondents were more aware of the impacts of e-waste on the environment. Besides, most of the respondents

from both of the sub-cities were not aware of the health risks associated with electronic waste.

Concerning awareness about safe disposal of hazardous fractions of electronic waste, most of the respondents were not aware that some hazardous fractions of e-waste need a special treatment in order to be safely disposed of. Only 29% of the respondents were aware of it. The X^2 test result (6.535, $p = .038$) showed that there was a significant difference among the respondents from both of the sub-cities. Thus, more respondents from NSL sub-city were aware of the safe disposal of some hazardous fractions of electronic waste than those in Bole sub-city. This indicates more awareness creation programs should be facilitated to Bole sub-city households.

The mobile phone is one of the rapidly generating types of e-waste in the world associated with its shortest lifespan. Owing to its relative affordability and rapid obsolescence rate, it would add a significant volume of e-waste. Across Africa, a combination of population growth and increased access to mobile phones and other technology will produce a surge in e-waste over the next five years (YSFES, 2014). Moreover, the disposal of cell phone batteries needs special care that if thrown down with other municipal wastes, it might pose a threat to the environment. In light of these, the study found that the majority of the respondents were aware that used dry-cell batteries need to be disposed of as safely as possible.

Unlike other types of waste, electronic waste management is a complex and challenging task because of its hazardous components. Therefore, it requires the formulation and enforcement of laws, legislations, and guidelines that specifically deal with e-waste to lessen the impacts it might pose to the environment and human health. Furthermore, awareness creation program should address this component so that customers would abide by those laws and guidelines either to recycle or dispose of the electronic equipment. The respondents were not familiar with any local/international laws

governing the electronic waste management and any programs or projects related to electronic waste, respectively. This might be associated to the absence of e-waste management policy or legislation in the country. The issue had been discussed widely under the sub-topic of e-waste management challenges.

E-waste not only contains hazardous chemicals but also valuable parts that can be sold in the market (Adediran and Abdulkarim, 2012; Otieno and Omwenga, 2015). Thus, awareness creation in this regard will encourage the households to properly handle and dispose of the e-waste. The result obtained from the survey showed that majority of the respondents were not aware whether some parts of electronic waste are profitably sold to recyclers. However, the X^2 test result showed a significant difference between the respondents of Bole and NSL sub-cities (6.708, $p = .013$). Thus, more respondents from the NSL sub-city were aware that some electronic parts may be profitably selling to recyclers than those from Bole sub-city.

Similar studies were performed on the role of public awareness in electronic waste management. For instance, Theodros (2010) confirmed that in the city of Addis Ababa a lot of awareness-raising activities took place through Mass Media such as television, radio, and poster pertaining to the solid waste management; but not to any specific hazardous wastes like the e-waste. Likewise, Gudeta *et al.* (2015) reported that most of the sample households of the city of Addis Ababa had no comprehensive idea about the health risks of electronic waste. This is congruent to the assumptions made by earlier studies that gross lack of awareness about e-waste is a major problem (Gudeta *et al.*, 2013).

These findings support the assertion made by Adediran and Abdulkarim (2012), that there is no public awareness on the inherent dangers of handling e-waste in Nigeria. Other authors have also mentioned that household awareness level is an important factor in determining the readiness of the public to deal with different environmental issues

(Fraige *et al.*, 2012). Similarly, Sivakumaran (2013) has highlighted that the public awareness is essential for the advancement of e-waste management system. According to Askari and Ghadimzadeh (2014), the percentage of knowledge about current management process for e-waste management is low, i.e., most people do not know how to manage the process. Furthermore, the reasons for poor e-waste management are a poor collection system for EOL products, insufficient information system, and lack of awareness among consumers (Geethan *et al.*, 2012). In conclusion, therefore, the launching of the awareness creation

program should be one of the major pillars of e-waste management programs if the government is aiming to bring change in e-waste management.

3.2 Engagement level in e-waste management practices in Bole and NSL sub-cities

Concerning the engagement level of the respondents in e-waste management practices, an attempt was made to present and discuss the obtained results. Accordingly, this section discusses the major results on the explanation of the mean score, percentages, the X^2 test results, and the ordinal regression outputs (see Table 1).

Table 1: Engagement level in e-waste management practices in the HHs

Items	Sub-city	Engagement Level			Mean
		Always	Sometimes	Never	
How often do you keep inventories of the equipment you discard/store?	Bole	3	27	20	2.34
	NSL	2	23	25	2.46
I recycle electronic products/gadgets which can still be recycled.	Bole	1	19	30	2.58
	NSL	1	16	33	2.64
I buy new electronic gadgets even if the older ones are still working.	Bole	35	9	6	1.42
	NSL	18	26	6	1.76
I buy gadgets with brands that are reputable for their durability and longer life over other brands.	Bole	46	4	0	1.08
	NSL	36	9	5	1.38
I observe proper waste segregation practices.	Bole	2	7	41	2.78
	NSL	NSL	3	10	37
I buy second-hand gadgets and/or "re-assembled" gadgets.	Bole	Bole	0	7	43
	NSL	NSL	1	22	27
I trade or sell used electronic gadgets.	Bole	Bole	6	23	21
	NSL	NSL	3	23	24
	Bole	NSL	3	23	24
	NSL	NSL	3	10	37

Source: Field survey, 2017

As far as the mean score is concerned, the mean scores ranged from 1.08 to 2.86, which means it ranges between 'always' and 'never' for most parts of the items. However, variations occur in some of the items. The X^2 result (13.710), $p = .001$, hence $p < 0.05$ is, however, statistically significant that the

majority of Bole sub-city respondents 'always' buying new electronic equipment even if the older ones are still working than the respondents of NSL sub-city. The X^2 test result (8.143) and $p = .017$, which was statistically significant, showed the high-income groups, which were mainly from Bole

sub-city had ‘always’ buying reputable equipment than middle-income groups (NSL sub-city).

An ordinal regression was carried out to predict ordinal-dependent variables given one or more independent variables. Accordingly, gender, monthly income, and educational level were considered as independent variables that will affect

the ordinal-dependent variables ranging from “never” to “always” for all items. It was understood that gender and educational level did not affect the households’ engagement level toward e-waste-management-related actions. While monthly income did affect some aspects. The summary result is presented in Table 2 and Table 3.

Table 2: HH’s Engagement level in buying gadgets with brands that are reputable (ordinal regression output)

		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[Q24 = 1.00]	.029	.812	.001	1	.972	1.029	.210	5.055
	[Q24 = 2.00]	1.500	.882	2.890	1	.089	4.480	.795	25.245
	Income	-4.511E-005	2.255E-005	4.002	1	.045	1.000	1.000	1.000
Location									
	[Gender=1.00]	-.071	.546	.017	1	.896	.931	.319	2.716
	[Gender=2.00]	0 ^a	.	.	0	.	1.000		

Source: Field survey, 2017

Similarly, the ordinal regression output clearly showed that the increase in monthly incomes (expressed in ETB) was associated with an increase in the odds of the respondents ‘buying gadgets with brands that are reputable for their durability and longer life over other brands’, with an odds ratio of 1.000 (95% 1.000 to 1.000), Wald $X^2(1) = 4.002$, $p < .045$ (see

Table 2). It also depicts that the increase in monthly income (expressed in ETB) was associated with a decrease in the odds of the respondents ‘buying second-hand gadgets and/or re-assembled gadgets’, with an odds ratio of 1.000 (95% 1.000 to 1.000), Wald $X^2(1) = 7.072$, $p < .008$ (see Table 3).

Table 3: HH’s Engagement level in buying second-hand gadgets (Ordinal regression output)

		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[Q26 = 1.00]	-3.320	1.188	7.805	1	.005	.036	.004	.371
	[Q26 = 2.00]	.559	.694	.650	1	.420	1.750	.449	6.819
Location	Income	4.951E-005	1.862E-005	7.072	1	.008	1.000	1.000	1.000

[Gender=1 .00]	-.333	.477	.488	1	.485	.716	.281	1.826
[Gender=2 .00]	0a	.	.	0	.	1.000		

Source: Field survey, 2017

This implies that the majority of the respondents ‘always’ engaged in buying a new electronic gadget even if the older one is working and tend to buy gadgets with brands that are reputable for their durability and longer life over other brands. Therefore, it can be understood from these results that the e-waste volume was influenced by the monthly incomes, the preferences, and tastes of the respondents and rapid technologies. In this regard, Veit and Moura (2015) noted that the life cycle of many electronic goods has been substantially shortened because of advancements in electronics, attractive consumer designs, and marketing and compatibility issues. For example, the average life cycle of a new computer has decreased from 4.5 years in 1992 to an estimated 2 years in 2005 and is further decreasing (Veit and Moura, 2015).

On the contrary, the majority of the respondents ‘never’ recycle electronic gadgets that can still be recycled and have never observed proper waste segregation practices. This strengthens the data obtained regarding the e-waste disposal methods that households have practiced. Thus, it gives rise to the increase in the volume of e-waste. This implies that e-waste recycling centers should be established in the city to facilitate the recycling process. Hence, the recycled materials can be used in developing new equipment that opens great opportunities for innovation of new products, retrieval of valuable materials, and minimization of the environmental effects of improper disposal of e-waste.

The study revealed that the majority of the respondents (78%) were ‘never’ involved in proper waste segregation practices while 17% of the respondents ‘sometimes’ involved in proper waste segregation practices. This result indicates poor

activities and involvements in e-waste segregation practices in the city. The majority of the respondents (70%) would ‘never’ buy second-hand gadgets or re-assembled electronic items while 27% of them sometimes buy these kinds of electronic gadgets. When we see the differences in between the respondents of Bole and NSL sub-cities, the X^2 test result (12.416, $p = .002$) that was statistically significant, and compared to the respondents of Bole sub-city, the majority of the NSL residents ‘sometimes’ buy second-hand gadgets. The implication of this result is that the monthly incomes of the respondents were determining factors for the households to rely on for the purchase of an original electronic equipment (for Bole sub-city respondents) and the purchase of second-hand equipment (for NSL sub-city respondents).

These findings are consistent with the findings of Borthakur and Sinha (2013), which proclaimed that the considerable price difference between the new and used EEE makes the consumer go for the purchase of the second-hand EEE in developing countries. Circulate (2017) stated that the customers are looking for durable products and updatable appliances. Sotelo *et al.* (2016) further found that customers are motivated by new models, thus increasing the waste flow, so electronic waste volume increases faster than the rest.

3.3 Awareness of e-waste and its management in Educational Institutions and Governmental Sector Offices

Public education and outreach may be the most important component in the management of e-waste. That is because no matter what infrastructure is available and developed, what the laws are, and

what the option is, no one will be aware of it without public education (Sinha *et al.*, 2005). As depicted in Table 4, the study examined the GSD personnel’s awareness of e-waste and the impacts of e-waste. Accordingly, the findings of the study revealed that the GSD personnel were aware of what it meant by e-waste, the volume of e-waste generated, and health risks from the inappropriate e-waste disposal methods, the threat of e-waste on environment, a special treatment of some hazardous fractions e-waste and safe disposal of dry-cell batteries, and the possibilities to sell some parts of electronic waste to recycler. The X² test results show no significance for all items except for some questions. Thus, the majority of GSD personnel from the PREIs were ‘uncertain’ about the impacts of e-waste on the environment, and the used dry-cell batteries need a special treatment in order to be

safely disposed of. The implications of these results are that though majority of the GSD personnel were aware of e-waste and the impacts, a significant number of the GSD personnel from the PREIs need awareness creation program on some of the impacts of e-waste. The outcome of these results was not consistent with the findings of previous studies, for instance, Oomman (2014), the pointed majority of the people were not aware of the effects of improper disposal, any recycling initiatives, and harmful chemicals in e-waste. There is generally low public awareness of the hazardous nature of e-waste management techniques used in developing countries (Samarakoon, 2014). Therefore, there is a need to examine and recognize the awareness level based on various criteria than going for generalizations.

Table 4: Summary of responses to e-waste and its impacts

ITEMS	Response	Institution's Name			Total	X ²	Sig. (2-tailed)
		PREI	PREI	PREI			
Do you know electronic waste?	Yes	25	31.3	29.2	85.4		.310
	No	8.3	2.1	4.2	14.6		
	uncertain	0	0	0	0		
Are you conscious/aware of the volume of electronic waste that you generate?	Yes	20.8	10.4	20.8	52.1		.218
	No	10.4	20.8	8.3	39.6		
	uncertain	2.1	2.1	4.2	8.3		
Are you aware of any health risk/s associated with electronic waste?	Yes	20.8	25	20.8	60.4		.408
	No	0	8.3	8.3	31.3		
	uncertain	12.5	0	4.2	8.3		
Does electronic waste pose a serious threat to the environment?	Yes	20.8	25	20.8	66.7		.024
	No	0	8.3	8.3	16.7		
	uncertain	12.5	0	4.2	16.7		
Are you aware that used dry-cell batteries need to be disposed	Yes	14.6	22.9	22.9	60.4		.408
	No	6.3	8.3	10.4	25		

of as safely as possible?	uncertain	12.5	2.1	0	14.6	
Are you aware that some hazardous fractions in e-waste need a special treatment in order to be safely disposed of?	Yes	25	16.7	27.1	68.8	
	No	8.3	8.3	4.2	20.8	.024
	uncertain	0	8.3	2.1	10.4	

Source: Field survey, 2017

Conversely, as indicated in the Table 5, the majority of the GSD personnel were not aware of any local or international laws pertaining to electronic waste management. Besides, about 75% of the respondents also reported that they were not aware of any policy/legislation on e-waste management at the federal/state level. Similarly, most of the GSD personnel were not aware of programs, activities,

and projects toward e-waste management. Finally, it was found that most of the GSD personnel argued that there are no e-waste recycling centers in Addis Ababa or elsewhere in the country. This implies that there were poor or no e-waste management activities in the city that were aggravated by the absence of e-waste legislations and absence of recycling centers.

Table 5: Responses to e-waste legislation, policies, and recycling

ITEMS	Response	Institution's Name			Total	X 2	Sig. (2-tailed)
		PREI	PREI	PREI			
Are you aware of recycling/trading fairs for electronic wastes?	Yes	16.7	16.7	16.7	50	3.200	.525
	No	12.5	6.3	12.5	31.3		
	uncertain	4.2	10.4	4.2	18.8		
Are you aware that some electronic parts may be profitably selling to recyclers?	Yes	20.8	22.9	14.6	58.3	3.752	.441
	No	12.5	8.3	14.6	35.4		
	uncertain	0	2.1	4.2	6.3		
Do you know of any local or international laws pertaining to electronic waste management?	Yes	8.3	8.3	6.3	22.9	1.925	.750
	No	18.8	18.8	25	62.5		
	uncertain	6.3	6.3	2.1	14.6		
Is there any policy/legislation on e-waste management at the state/federal level that your institution is aware of?	Yes	0	14.6	10.4	25	9.461	.051
	No	22.9	10.4	12.5	45.8		
	uncertain	10.4	8.3	10.4	29.2		
Are you aware of local programs, projects, or activities	Yes	6.3	6.3	10.4	22.9	1.465	.833
	No	18.8	20.8	18.8	58.3		
	uncertain	8.3	6.3	4.2	18.8		

pertaining to electronic waste management?							
Are there e-waste recycling sites in Addis Ababa or elsewhere in the country that you know of?	Yes	6.3	16.7	12.5	35.4	3.795	.434
	No	20.8	14.6	16.7	52.1		
	uncertain	6.3	2.1	4.2	12.5		

Source: Field survey, 2017

This is because electronic waste management is quite different from other types of waste management because of its complex nature in its management. It is the rapidly growing waste stream in the world. In addition to this, it is composed of both hazardous and valuable materials, and the recycling and dismantling process requires high and special skills. Thus, designing of specific laws and legislations, guidelines, or regulations that deal with e-waste is paramount. This finding is consistent with MICT (2013), which points out that although government institutions are the biggest generators of e-waste, most have no idea on how to dispose of e-waste that is lying idle in their stores awaiting disposal.

3.4 Engagement level in e-waste management practices in Educational Institutions and Governmental Sector Offices

The findings of the study regarding the activities of EIs and GSOs related to inventory of e-waste, establishing departments handling e-waste, adopting e-waste policy, e-waste recycling, storage of e-waste, and awareness creation programs (see Table 6). Accordingly, the study highlighted that e-waste inventories were practiced among EIs and GSOs. These include e-waste identification and characterization, labeling, and recordings. Despite the fact, it was hardly possible to obtain data on temporal dimension of electronic waste, which

hinders the presentation on the e-waste generation level in the last five years.

Electronic waste management, owing to its nature, should be handled by special bodies who are knowledgeable and professionals with basics of e-waste categorization, dismantling, refurbishing, and recycling. In this regard, it was found that there were no independent units that were responsible for handling e-waste in the majority of the selected EIs and GSOs. Furthermore, the GSD personnel considered and treated e-waste like other types of waste. This implies the awareness creation programs should be facilitated by the GSD personnel on how to handle e-waste.

The study also revealed that the majority of the GSD personnel reported that they had no policy or legislation governing e-waste management. Besides, there were no appropriate and sufficient storage areas to handle the discarded electronic waste. This indicates fewer concerns regarding e-waste management and the lack of proper handling of discarded appliances. Regarding types of electronic waste that EIs and GSOs consider hazardous, the result shows there were types of electronic waste, which were considered hazardous by GSD personnel. In this aspect, the chi-square test result to see whether there was a significant difference between EIs and GSOs was statistically significant at .045.

Table 6: Summary of the activities performed in e-waste management

ITEMS	Response	Institution's Name			Total	X ²	Sig. (2-tailed)
		PREIs	PUEIs	GSOs			
Do you keep inventories of the equipment you discard/store?	Yes	25	22.9	20.8	68.8	8.022	.012
	No	8.3	6.3	10.4	25		

	uncertain	0	4.2	2.1	6.3		
Is there any unit that is specifically responsible for e-waste management in your institution/office?	Yes	10.4	20.8	10.4	41.7		.093
	No	22.9	12.5	18.8	54.2		
	uncertain	0	0	4.2	4.2	7.962	
Does your institution have a policy for the management of electronic waste management?	Yes	14.6	20.8	10.4	45.8		.212
	No	14.6	12.5	14.6	41.7		
	uncertain	4.2	0	8.3	12.5	5.827	
Does your office/institution have appropriate and sufficient storage to handle e-waste and discarded electronic items?	Yes	16.7	10.4	8.3	35.4		.432
	No	16.7	20.8	20.8	58.3		
	uncertain	0	2.1	4.2	6.3	3.815	
Are there types of electronic waste that you consider hazardous?	Yes	14.6	12.5	18.8	45.8		.045
	No	18.8	14.6	4.2	37.5		
	uncertain	0	6.3	10.4	16.7	9.720	
Is there any electronic equipment that is not giving service because of its design/size/features?	Yes	10.4	16.7	16.7	43.8		.565
	No	14.6	12.5	14.6	41.7		
	uncertain	8.3	4.2	2.1	14.6	2.597	
Is your institution currently addressing the growing need for knowledge and skills relating to resource consumption or electronic waste?	Yes	20.8	20.8	8.3	50		.136
	No	8.3	6.3	10.4	25		
	uncertain	4.2	6.3	14.6	25	7.000	

Source: Field survey, 2017

The study found that there was electronic equipment that was non-functional because of the absence of manuals, their sizes, their designs, and lack of knowhow to operate the equipment in about 47% of the selected EIs and GSOs. This indicates that electronic equipment needs special care and knowledge during the purchase, consumption, and disposal. Finally, the study highlighted that about half (50%) of the selected EIs and GSOs were currently addressing the growing need for knowledge and skills relating to resource consumption or electronic waste. This practice should be expanded to an extent that it covers the population of the city.

Studies indicated that Africa is the latest destination for e-waste, referred to as the ‘digital dump’ by the Basel Convention Network (BAN), since many Asian countries are now coming up with legislation that bans uncontrolled import of certain categories of used EEE (Adediran and Abdulkarim, 2012). Almost half the e-wastes of US and Australia are dumped as landfills while the rest are exported to Asia and Africa (Sivaraman, 2013). It is estimated that 75% to 80% is shipped to countries in Asia and Africa for “recycling” and disposal (Devin *et al.*, 2014). Many African countries receive second-hand equipment. Veit and Moura (2015) avowed that most electronic equipment exports to Africa are not pre-tested for

functionality. The same author further notes that it is not possible to assess whether these exports are legally defined as hazardous waste under the Basel Convention.

In this regard, the study discovered that the majority of the selected EIs and GSOs received electronic equipment from donating organizations and other institutions abroad. This has an implication on the volume and speed of e-waste generation. Townsend (2011) asserted that ‘*debate is still underway regarding the role of international transfer of old electronic equipment to developing countries. Certainly, the donation of working computers to households and students who otherwise would not have such equipment is of benefit, but the EOL implications must be considered.*’

In addition to the activities, this section also presents the results and findings obtained on the engagement level of the selected EIs and GSOs in some of the electronic-waste-management-related activities (see Table 7). Thus, it was found that the GSDs’ engagement level in some electronic-management activities ranged from ‘always’ to ‘never’. However, there were variations in the mean score among the three cases were ‘sometimes’ engaged in all of the activities listed in the table, hence the mean value for the whole activities is 2.11. Besides, the X² test results were significant at (p=.001, .007, .040), which indicates significant differences among EIs and GSOs in responding to

questions such as: “I observed proper waste segregation practices,” “the institution bought electronic equipment from brands that are reputable for their durability and longer life over other

brands,” and “the institution trades or sells used electronic equipment.” These results were clearly indicated in the ordinal regression outputs (see Table 8 and 9).

Table 7: Engagement level in e-waste management in EIs & GSOs

Items	Institutions	Level of Engagement			Mean	Sig.
		Always	Sometimes	Never		
It recycles electronic products/gadgets that can still be recycled.	PREI	2.1	12.5	18.8	2.31	.184
	PUEI	0	22.9	10.4	2.50	
	GSO	4.2	10.4	18.8	2.43	
It buys new electronic gadgets even if the older ones are still working.	PREI	6.3	27.1	0	1.75	.478
	PUEI	8.3	25	0	1.81	
	GSO	12.5	20.8	0	1.62	
It buys electronic equipment with brands that are reputable for their durability and longer life over other brands.	PREI	20.8	12.5	0	1.56	.338
	PUEI	14.6	18.8	0	1.37	
	GSO	12.5	20.8	0	1.62	
I observe proper waste segregation practices.	PREI	4.2	20.8	8.3	1.81	.001
	PUEI	12.5	14.6	6.3	2.12	
	GSO	0	6.3	27.1	2.81	
It buys second-hand gadgets and/or “re-assembled” equipment.	PREI	6.3	16.7	10.4	2.75	.007
	PUEI	2.1	4.2	27.1	2.12	
	GSO	0	4.2	29.2	2.87	
It traded or sells used electronic equipment.	PREI	14.6	14.6	4.2	2.12	.040
	PUEI	6.3	16.7	10.4	1.68	
	GSO	2.1	12.5	18.8	2.50	
It donates some old electronic equipment to other institutions.	PREI	0	14.6	18.8	2.06	.170
	PUEI	8.3	14.6	16.7	2.56	
	GSO	8.3	16.7	8.3	2.00	
Average					2.11	

Source: Field survey, 2017

Table 8: The Status of EIs and GSOs in observing proper waste segregation practices (ordinal regression output)

	Estimate	Std. Error	Wald	df	Sig.	Exp_β	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[Q49 = 1.00]	-4.055	.820	24.485	1	.000	.017	.003	.086
	[Q49 = 2.00]	-1.487	.644	5.339	1	.021	.226	.064	.798
	[PREIs]	-2.419	.825	8.608	1	.003	.089	.018	.448
Location	[PUEIs]	-3.361	.881	14.571	1	.000	.035	.006	.195
	[GSOs]	0 ^a	.	.	0	.	1.000		

Moreover, in order to predict an ordinal-dependent variable given one independent variable, the study conducts an ordinal regression. Accordingly,

institution type (PREIs, PUEIs, and GSOs) was considered as an independent variable that might affect the ordinal-dependent variables ranging from

“never” to “always” for all items. The summary result is presented in Table 8, as follows. The ordinal regression result shows that the odds of Private Educational Institutions and Public Educational Institutions in observing proper waste segregation practices was .089 (95% CI, .018 to .448) and .035 (95% CI, 006 to .195) times that of Government Sector Offices, a statistically significant effect, Wald $X^2(1) = 8.608$, $p = .003$, and

Wald $X^2(1) = 14.571$, $p < .001$, respectively (see Table 8). The odds of Private Educational Institutions in buying second-hand gadgets and/or “re-assembled” equipment was .067 (95% CI, .011 to .407) times that of Public Educational Institutions and Government Sector Offices, a statistically significant effect, Wald $X^2(1) = 8.641$, $p = .003$ (see Table 9).

Table 9: The Status of EIs and GSOs in buying second-hand gadgets and/or “re-assembled” equipment (ordinal regression output)

	Estimate	Std. Error	Wald	df	Sig.	Exp_β	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[Q50 = 1.00]	-4.072	.945	18.583	1	.000	.017	.003	.109
	[Q50 = 2.00]	-1.965	.761	6.673	1	.010	.140	.032	.622
	[PREIs]	-2.698	.918	8.641	1	.003	.067	.011	.407
Location	[PUEIs]	-.543	.988	.302	1	.583	.581	.084	4.027
	[GSOs]	0 ^a	.	.	0	.	1.000		

Source: Field survey, 2017

As shown in Table 10, the odds of Private Educational Institutions in trading or selling used electronic equipment was .102 (95% CI, .023 to .445) times that of Public Educational Institutions and Government Sector Offices, a statistically significant effect, Wald $X^2(1) = 9.236$, $p = .002$. As indicated in Table 11, the odds of Private

Educational Institutions in donating some old electronic equipment to other institutions was 4.594 (95% CI, 1.140 to 18.518) times that of Public Educational Institutions and Government Sector Offices, a statistically significant effect, Wald $X^2(1) = 4.596$, $p = .032$.

Table 10: The Status of EIs and GSOs in trading or selling used electronic equipment (ordinal regression output)

	Estimate	Std. Error	Wald	df	Sig.	Exp_β	95% Confidence Interval		
							Lower Bound	Upper Bound	
Threshold	[Q51 = 1.00]	-2.550	.636	16.055	1	.000	.078	.022	.272
	[Q51 = 2.00]	-.270	.496	.297	1	.586	.763	.289	2.018
	[PREIs]	-2.281	.750	9.236	1	.002	.102	.023	.445
	[PUEIs]	-1.068	.694	2.368	1	.124	.344	.088	1.340
Location	[GSOs]	0 ^a	.	.	0	.	1.000		

Source: Field survey, 2017

4. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The findings discovered that households’ level of awareness about e-waste and its management was

much lower than the EIs, GSOs, and HGOs. The respondents were not aware of e-waste policy/legislations, projects, activities, and e-waste recycling centers in Addis Ababa. Ethiopia had a no e-waste policy until recently except a single statement about e-waste in a proclamation named “Solid Waste Management Proclamation.” Besides, there were no e-waste recycling centers in Addis Ababa or elsewhere in other secondary cities in Ethiopia except the CRTC. It is a recently established center to refurbish, dismantle, and maintain e-waste mainly on the computers.

The study found that educational status has influenced the awareness of the impacts of e-waste posed on the environment. This implies that the households with higher education status were likely aware of the environmental impacts of e-waste. However, the educational qualifications did not affect the remaining awareness-related questions presented in this study. On the other hand, the chi-square test result showed there was statistically significant difference in terms of the awareness of the respondents about the impacts of e-waste on the environment and safe disposal of dry-cell batteries among the PREIs, PUEIs, and GSOs. Accordingly, it was found that the majority of the GSD personnel in the PREIs were uncertain about the impacts of e-waste on the environment and safe disposal of dry-cell batteries than the PUIEs and GSOs. From these findings, in general, it was concluded that the GSD personnel and HGOs were more aware of the e-waste and issues in its management than the households of Bole and NSL sub-cities. This might be associated with several factors including the educational qualifications, exposition to various waste-management-related information, the working environments, and the office responsibilities. The improper disposal of e-waste poses a long-term threat to public health and the environment because it is the largest source of heavy metals and organic pollutants in the solid waste stream. In addition, e-waste needs to be handled properly in order to conserve resources because they contain valuable recyclable materials. The valuable spare parts of more selective types of electronic equipment will generate revenue for the organization.

Therefore, the implications of these findings are that the awareness creation program needs to be facilitated by the households rather than the GSD personnel and higher government officials. Besides, proper measures should be taken during the purchase and utilization of electronic equipment as well as during the storing, transportation, and disposal of the e-waste. It is evident that owing to the lack or absence of management system to handle e-waste, the majority of the consumers might lack awareness about what to do with the non-functional, obsolete, and irreparable electronic waste generated. As a result, there will be either prolonged storage or disposal of electronic waste with other types of domestic or municipal waste.

The result of this study can help not only for improving the e-waste management practices in Addis Ababa and other urban areas of Ethiopia, but it also serves as a first-hand information for other cities of the developing countries. Undeniably, the improper disposal practice of e-waste considerably affects both the environment and human health. Therefore, awareness creation programs and activities are among the pillars of electronic waste management to reduce these impacts. Fundamental achievement of proper waste management, consequently, is the availability of information and consultation and participation of government authorities and responsible stakeholders to create public awareness through designing communication tools for awareness enhancement and implementation of training needs on the issue of environmentally sound management of electronic wastes.

Based on the findings achieved from the study, it is highly recommendable to work on some of the e-waste-management-related activities. First and foremost, systematic training including seminars will be useful for the GSD personnel, regional and local authorities, and other actors involved to disseminate information especially on the relevance of managing e-waste in a sound manner. Then, the technical solutions (maintenances and assembly) and financing mechanisms for the fulfillment of e-waste management and recycling facilities. Finally, there should be promotion and awareness creation programs toward e-waste and its management

through Mass-medias, such as televisions, magazines, newspapers, journals, radios, and pamphlets.

REFERENCES

- Adeiran YA & Abdulkarim, A. (2012). Challenges of Electronic Waste Management in Nigeria. *International Journal of Advances in Engineering & Technology (IJAET)*, 4 (1), 640–648.
- Arora, R. (2008). A survey on Electronic waste management in Coimbatore www.ijest.info/docs/IJEST11-03-03-114.pdf. (Accessed in March, 2015)
- Askari, A. & Ghadimzadeh, A. (2014). Electronic Waste Management: Towards an Appropriate Policy. *European Journal of Business and Management*. 6 (1).
- Baldé, C.P., Forti V., Gray, V., Kuehr, R., Stegmann,P. (2017). The Global E-waste Monitor – 2017. United Nations University (UNU), International Telecommunication Union (ITU) & International Solid Waste Association (ISWA), Bonn/Geneva/Vienna.
- Baldé, C.P., Wang, F., Kuehr R. & Huisman, J. (2015). The global e-waste monitor – 2014, United Nations University, IAS – SCYCLE, Bonn, Germany.
- Borthakur, A. & Sinha, K. (2013). Electronic Waste Management in India: A stakeholder's Perspectives. *Electronic Green Journal* 1(36).
- Chibunna, J.B., Siwar, C., Ara Begum, R. & Fariz, M.A. (2012). The Challenges of E-Waste Management among Institutions: A Case Study of UKM. Elsevier.
- Circulate, (2017). The Source for Latest News and Insight on the Circular Economy. Eliminating the Concept of Electronic Waste.
- Feras Y, Fraige, Laila A, Al-khatib, Hani M, Alnawafleh, Mohammad K, Dweirj & Paul A, Langston. (2012). Waste Electric and Electronic Equipment in Jordan: Willingness and Generation rates. *Journal of Environmental Planning and Management*, 55(2), 161–175.
- Geethan, K., Vasantha, A., Jose, S., Manikandan, V.K., Muthuswamy, V., & Jude, S.L. (2012). Assessment of Electronic Waste Inventory and Management Model, *International Journal of Applied Environmental Sciences*, 7(1), 77–92
- Gudeta, H.B., Akhila, S., Nair, & M.I. Zuberi, (2015). Electronic Waste Generation and Its Management in Bole and Akaki Kaliti Sub Cities of Addis Ababa Ethiopia. *International Journal of Environmental Sciences* 4 (2), 46–51.
- Kiddee, P., Naidu, R., & Wong, M.H. (2013). Electronic Waste Management Approaches: An overview. *Waste Management*, 33(5), 1237–1250.
- Lundgren, K. (2012). The Global Impact of E-Waste: Addressing the Challenge, International Labor Office, Programme on Safety and Health at Work and the Environment (Safe Work), Sectoral Activities Department, Geneva: ILO.
- MICT (2013). Strategy for Electronic Waste Management UNDP, Republic of Uganda.
- NCHEWM (2013). Environment Observer. Society for Environment Education Research and Management (SEERM). Proceedings of National Conference on Hazardous e-Waste Management. Vol 17.
- Oomman, U.P. (2014). A Survey of Consumer Behaviour towards E- Waste Management in the City of Mumbai. *International Journal of Research in Applied, Natural and Social Sciences* 2 (8), 1–10.
- Otieno, I. & Omwenga, E. (2015). E-Waste Management in Kenya: Challenges and Opportunities. *Journal of Emerging Trends in Computing and Information Sciences*. 6(12).
- Samarakoon, M.B. (2014). A Review of Electrical and Electronic Waste Management in Sri Lanka. *International Conference on Chemical, Civil and Environmental Engineering*. Singapore.
- Sinha, K.D., Kraeuchi, P. & Schawninger, M. (2005). A Comparison of Electronic Waste Recycling in Switzerland and in India. *Environmental Impact Assessment Review*, 25(5), 492–504.
- Sivaramanan, S. (2013). E-Waste Management, Disposal and Its Impacts on the Environment. *Universal Journal of Environmental Research and Technology*, 3(5), 531–537.
- Sotelo, S.C., Benitez, S.O., Victorica, K.V., Soto, N.S., Cueto, R.G., Gonzalez, P.T., & Virgen, Q.A. (2016). Electronic Waste in Mexico – Challenges for Sustainable Management.
- Tengku-Hamzah, T.A.A. (2011). Durham E-Thesis Making Sense of Environmental Governance. A study of E-waste in Malaysia, Durham Theses, Durham University. <http://www.etheses.dur.ac.uk/670/1/TAATengkuHamzah.pdf> (Accessed in June, 2015).
- Theodros, G. (2010). Assessment of Electronic Waste Management: Case Study of Some TVET Colleges in Addis Ababa. A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Masters of Arts in Development Studies.
- Townsend, T.G. (2011). Environmental Issues and Management Strategies for Electronic and Electrical Equipment. *Journal of the Air and Waste Management Association*. Volume 61: pp. 587–610. DOI:10.3155/1047-3289.61.6.587.
- Tyagi, N., Baberwal, S.K., & Passi, N. (2015). E-Waste: Challenges and its Management. *Journal of Undergraduate Research and Innovation*, 1(3) 108–114.
- United Nation University (2013). E-waste Management Project Launched in Ethiopia.
- Veit, H.M. & Moura, B.A. (2015). Electronic Waste: Topics in Mining, Metallurgy and Materials Engineering.
- Yale School of Forestry & Environmental Studies, (2012). <https://e360.yale.edu/digest/africa...produce...e-waste.../3378/>
- Yu, J., Williams, E., Ju, M., & Yang, Y. (2010). Forecasting global generation of obsolete personal computers. *Environmental science & technology*. 44(9), 3232–3237.

Judicial Review of Law-Making Process in Iraq under the Constitution of the Republic of Iraq-2005

Adnan Amin Qadir

Department of Law, Faculty of Law, University of Sulaymaniyah, Kurdistan Region, Slemani, F.R. Iraq.

Corresponding author's email: adnandalawi@gmail.com

Received: 22/07/2019

Accepted: 06/02/2020

Available online: 30/06/2020

ABSTRACT

In the presidential form of government, constitutions vest law-making process in the legislative power, while in the parliamentary form of government, the executive power participates in law-making through introducing bills. The Constitution in Iraq grants an original authority to legislate federal laws to the Council of Representatives. Nevertheless, the executive power, namely the President and the Council of Ministries, participates in the process through introducing government bills to the Council of Representatives. Although the Constitution clearly identifies two methods through which bills shall be presented to the Council of Representatives, there have been disagreements over the constitutionality of laws legislated on the basis of legislative initiatives not government bills. The Iraqi Federal Supreme Court has decided differently on different occasions by depriving the legislative power of its right to initiate in some cases or by putting restrictions in some other cases. This research analyzes the line drawn between the Council of Representatives and the executive power in the process of law-making at its first stages and then examines the Federal Supreme Court's understanding in the light of the text of the Constitution.

Keywords: Law-Making Process, Initiatives, Bills, Judicial Review in Iraq

1. INTRODUCTION

The doctrine of separation of powers is adopted into the constitutions of countries around the world differently on the basis of the form of government. In the presidential form of government, the doctrine is in its rigid form, whereas in the parliamentary form of government, soft separation is upheld. Unlike the rigid

separation, the soft separation of powers guarantees that the legislative, executive, and judicial powers exercise their authorities but with cooperation and participation of other powers.

Regarding the law-making process, the legislative power reserves an original jurisdiction to legislate. However, the executive power participates in the process at the first stage through introducing government bills and at the last stage through approval and issuance of laws. The participation of the executive power in law-making increases the possibility of infringement from one power on another. It is for this reason that established legal criteria is needed to determine the scope of the original power of law-making and its extent of cooperation. In case of disagreement over exercising the authority, the role of the

Access this article online

DOI: 10.25079/ukhjs.v4n1y2020.pp37-49

e-ISSN: 2520-7806

Copyright © 2020 Qadir. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).

Constitutional Court as an interpreter of the Constitution comes in to settle/give the last word on such disputes.

In Iraq, the Constitution of 2005 adopts a parliamentary form of government, in which the three powers of government are established on the basis of the doctrine of separation of powers and “checks and balances” have been set up among them. The main question here, therefore, is to determine whether the legislative power or executive power or both powers have the authority to initiate bills to the Council of Representatives and, further, to what extent the Federal Supreme Court plays a role in establishing a line between these powers.

Research Problem: The Iraqi Constitution addresses the issue of participation of the executive power in the law-making process. However, there have been disagreements between the powers in interpreting the eligible authority to introduce legislative initiatives and bills. This problem still exists because the Federal Supreme Court has reached different interpretations on different occasions regarding the issue in question.

Research Aims: The research aims to draw a precise line between the legislative and executive powers in the law-making process in the light of the Iraqi Constitution and guarantee that they do not collude. It also aims to reach a consistent interpretation of the issue by the Federal Supreme Court.

Importance of the research: This issue has been chosen because of the following reasons:

- The implementation of the law-making process as structured in the Constitution has caused disagreements between the executive and the legislative powers over their authority to introduce bills.
- The Federal Supreme Court has upheld many laws and struck down a number of laws because they were legislated on the basis of legislative initiatives; therefore, there has been inconsistency in the Federal Supreme Court’s decision regarding this matter.

- This research strives to draw a line between the legislative and executive powers regarding the law-making process.

Research Methodology: The research uses an analytical approach in analyzing the text of the Constitution and then examining the precedents. Along with that, the research incorporates practices in the parliamentary form of the United Kingdom in a comparative form on a number of occasions.

Research Structure: This research starts with an introductory part on the law-making process in parliamentary systems, then analyzes the law-making process under the Constitution of the Republic of Iraq – 2005, examining the judicial review of the law-making process in Iraq, and finally goes on to conclusions and consequent recommendations.

2. Law-Making Process in Parliamentary Systems

In this part, the research will provide an overview on the law-making process in parliamentary systems in an attempt to observe its link to the doctrine of separation of powers. It is essential to find out how the executive participation in the law-making process is rooted in laws and practice in highbred parliamentary systems, especially in the United Kingdom. This will then be helpful to analyze and examine the parliamentary form of government adopted by the Constitution of Iraq.

2.1 Parliamentary Systems and the Doctrine of Separation of Powers

Generally, the Constitution of every state outlines the structure of the national government. Despite the fact that there are various structures, there are two mainly recognized forms of government, namely, the presidential and the parliamentary systems. Adopting the doctrine of separation of powers draws the line between these forms; either it completely separates the legislative, executive, and judicial powers with very limited interference, or it establishes separation between these powers with incorporation of checks and balances between them. These checks and balances will be guaranteed by giving participatory and reviewing role to the

three powers beside their main authorities and jurisdictions. The latter type is commonly called *soft* separation of powers, which is a characteristic of the parliamentary systems (Amin, 2007). It is worth mentioning that there are other forms of government in between the presidential and the parliamentary forms, referred to as “semi-presidential,” in which the political regions established in the Constitution adopt different elements of each form of government (Duverger, 1980).

In the light of the above-mentioned, Arabic jurisprudence defines the parliamentary form of government as a system aimed to ensure balances and cooperation between the legislative and executive powers for the two not to control or dominate each other (Hassan, 2006). In such a system, the government powers reserve original authorities that are mainly vested in one body of the government. However, the Constitution has provided means through which the different powers can influence, monitor, and cooperate with each other. It is very important to note that the parliamentary form of government is commonly referred to as a system that guarantees the supremacy of the parliament as described by Jean-Jacques Rousseau as “popular will” or “popular sovereignty” (Rousseau, 1761, 74). According to Rousseau, legislative power comes from general will; only the will of people has the right to say what the law is; the government/the executive power is there only to implement the will of the people. It must be noted that in practice, there are influencing factors such as electoral systems that play a key role in weakening the supremacy of the parliament. For example, in Great Britain, the two dominant parties remain in power on the basis of the winner-takes-all electoral system, which is why the Prime Minister has always had a majority support in the parliament to pass government bills (Sargentich, 1993, 581). A similar pattern has been observed in Iraq, where the Prime Minister usually is guaranteed with the support of parliamentary coalition since 2005, and it has not happened that the Council of Representatives have seriously considered the withdrawal of confidence from the government. In the meantime, it is worth knowing that the Council of Representative has colluded with the government bodies, especially on acts that the government did not support in a particular form.

In the government structure, the executive power is selected by the legislative power in parliamentary systems. However, the doctrine of separation of powers ensures that the legislative and the executive powers are equal bodies with their own functions, and that neither of them is controlled by the other, because it may otherwise lead to the prime minister’s dictatorship or parliamentary dictatorship (Hafedh, 2005). The separation of powers in such systems is not rigorous; there are areas where the powers need to cooperate and work together in order to guarantee that the authority is not misused by one power. For example, the parliament is guaranteed with the right to question and/or withdraw confidence from the government, and the government is also given right to dissolve the parliament. The most important authority that the legislative possesses, and the executive power participates in, is the law-making process, in which the government participates through presenting bills and approving and issuing laws. This will be further examined below.

2.2 Law-Making Process in Some Parliamentary Systems

Law-making is a process through which an idea is transformed into a law, and this transformation either creates a new law or revises an existing legal norm. At first sight, one may think that the whole process of law-making is conducted by the legislative power. However, it must be noted that the transformation occurs through different stages that may be initiated by both the legislative and executive powers. In general, the first stage of the process starts with an initiative or a bill. The legislative power then legislates, and finally, the executive power ratifies, issues, and publishes the law. For the purpose of this study, the first stages of the law-making are put at the center of the research question.

In the light of that, the first stage of law-making is the first place where a transformed idea is presented in an initiative or a bill. In most of the parliamentary systems, this can be through either an initiative from the legislative itself or a bill from the executive. From this perspective, the parliament – whether it is bicameral or unicameral – reserves an original function of legislation, including introducing initiatives. According to jurist Paul

Laband, the idea that the parliament reserves an original function of law-making returns to the struggle in the eighteenth and nineteenth centuries between the legislative councils [parliaments] controlled by the bourgeois and the government on the other hand controlled by the aristocrats and also because legislation creates legal rights and statues, Paul Laband believes that it was intended to be exercised by an independent body representing popular constituents (Said, 2013).

An initiative is an act that pushes legislation procedures forward, providing its materials, and it is described as the first brick in the law-making process (Mohsen, 2014). Some jurists such as Esmein believe that initiatives are not elements of the law-making process because they are not included within the authoritative decision resulted from the passed law and they are parts of administrative work outside the legislative process. This idea is, however, rebutted by other jurists who claim that the law-making process does not start in a vacuum, but rather depends on an idea where its content and essence are developed until it reaches completion (Abdul-Rahman, 2006). These initiatives by the parliament can be introduced by a number of parliament members or one of the parliament committees. The idea that the parliament reserves a power to introduce initiatives by its members or one of its committees stems from the fact that its main authority is to make laws on behalf of the people. As such, the authority of law-making will be impeded if the parliament does not reserve an authority to introduce initiatives. With this regard, jurist Kolar describes this function of the parliament as that “who has the right to propose [initiate] is who rules” (Mohsen, 2014). As a result, the authority of the legislative power to introduce initiatives is essential and complementary for its power to legislate laws.

As stated earlier, the law-making process is not monopolized by the parliament in the parliamentary systems; the executive power also participates in the process (Abdul-Rahman, 2006). The role of the executive power appears at the first stage of the process, where the government has given an authority to submit bills to the parliament (Al-Rafahi and Hussein, 2010). There are many reasons behind vesting the right to introduce bills in the government alongside the legislative power. First,

through bills, the government is able to introduce to the parliament the agenda and views on current matters, and this will include the government’s understanding of issues, causes and results, and measures needed to be taken. Through this, the government reserves some measures to defend its views regarding a particular matter before the parliament. Second, the government has sufficient capacity, resources, and public entities that put it in a better position to identify the needs and then address them, unlike the parliament, which does not have such capacity. Third, the majority of acts create different types of obligations on the government, which is why the government needs to have a word regarding its capacity to fulfill the obligations created by laws.

In practice, it is also very likely that the first stage of law-making process may also be politicized and a greater role in the law-making is guaranteed for the executive power. This happens where the government has a parliamentary majority and presents bills that serves the government agenda and interests. For example, in Great Britain and during 2016-2017, 25 government bills received royal assents, and only eight private member’s bills received royal assents (see, the UK Parliament surveys of 2016 and 2017).

In a nutshell, the law-making process in parliamentary systems starts with an initiative from the legislative power through the members or one of its committees or as bills from the government. It is noted that in the majority parliamentary systems these two methods are set in the system in order to make sure that both the government and parliament have authority to introduce initiatives and bills.

2.3 Law-Making Process in the Constitution of the Republic of Iraq – 2005 and Applicable Laws

After 2003, Iraq became a federal state in which the government system was declared as republican, representative (parliamentary), and democratic (The Constitution of the Republic of Iraq of 2005, Article 1). It is stated that this system is a “form of government that is based on equality of functions between the legislature, executive, and judiciary branches of government, and in which the political

direction for public affairs results from a complete cooperation between the legislative and the executive powers through a responsible cabinet before the parliament” (Amin, 2007). Therefore, the Constitution sets up the law-making process in Iraq between the legislative and executive power of government. In addition to that, the Constitution provides the doctrine of separation of powers in its soft form, separating the three powers, considering them as equal powers but also guaranteeing balance and cooperation in certain functions, *inter alia*, with regard to the law-making process.

This research bases its law-making analysis in Iraq in a triangle shape between the parliamentary form of government in Iraq, the doctrine of separation of powers, and finally the cooperation between the legislative and executive in the law-making process. However, before going into the analysis and in order to have a better understanding of the law-making process in Iraq, the study first briefly explains the structure of the legislative and executive powers in the federal government as the main bodies involved in the law-making process.

The federal legislative power in Iraq is bicameral and is composed of the Council of Representatives and the Federation Council (see Article 48). The Council of Representatives represents the entire population of Iraq, and members of the Council are elected directly through a popular election for a term of four years (see Article 49 of the Iraqi Constitution). In contrast, the Federation Council, which is the second house of the legislative power, is composed of representatives from the regions and the governorates that are not organized in a region. Similar to other federal states, the purpose of the second house is to protect the interest of the regions, especially small regions which do not have many representatives in the other house. The Iraqi Constitution provides in Article 65 that “*a law, enacted by a two-thirds majority of the members of the Council of Representatives, shall regulate the formation of the Federation Council, its membership conditions, its competencies, and all that is connected with it.*” It is noted that the Constitution was not successful in establishing this body of government and left it to be regulated by law – and since the establishment of the Constitution in 2005, the Council of Representatives – because of political

disagreements and the fact that apart from the Kurdistan Region of Iraq, no other regions have been established in Iraq.

The federal executive power is composed of the President and the Council of Ministries. The President is elected for one renewable term of four years by the Council of Representatives with two thirds of all votes. It should be noted that the Iraqi Constitution provides in the transitional section, namely, in Article 138, that the Council of Presidency replaces the President in the Constitution for one term after the Constitution comes into effect, which is why for the first formed government under the Constitution of 2005, the Council of Presidency exercised the powers of the President as stated in the Constitution. The Council of Ministries exercises the real authorities of the executive power and is given confidence on individual basis by the Council of Representatives with a simple vote (see Article 76). Following an explanation of the structure of the legislative and executive powers in Iraq, the research will analyze the law-making process in the Constitution.

First, the Constitution guarantees the republican, representative, and parliamentary form of government. It is agreed that unlike the presidential form of governments such as the United States where the law-making is solely vested in the Congress (Article I, Section 1), the parliamentary form of government ensures some influences of the executive power in the law-making process, similar to most parliamentary systems.

Second, Article 61 of the Constitution provides that: “*The Council of Representatives shall be competent in the following [inter alia]:*

First: Enacting federal laws.

Second...”

It is understood from the above Article that the Council of Representative is the only federal legislature representing the Iraqi people’s will and will be granted an original power to legislate laws. In this process, no government body participates in any matter.

Further, in Article 60, the Constitution provides that *“First: bills shall be presented by the President of the Republic and the Council of Ministers.*

Second: Legislative Initiatives shall be presented by ten members of the Council of Representatives or by one of its specialized committees.”

It must be noted that the Article 60 provides two methods for initiatives; the first clause states that bills will be presented by the President or the Council of Ministries, and the second clause states that legislative initiatives will be introduced by ten members of the Council of Representative or one of its specialized committees. Understanding the text of these two clauses of Article 60 may be different owing to whether or not it is read in the light of other articles of the Constitution. According to one interpretation, it is noted that the Constitution provides two separate methods in clause 1 and 2 and that there is relationship between these two clauses as the founders wanted to ensure that both the Council of Representatives and the President and the Council of Ministries have the authority to introduce initiative and bills. This interpretation is very likely if linked to Article 61, where the Council of Representatives reserves the original authority to legislate laws. If the Council of Representatives is deprived of its authority to introduce initiatives and has to wait for the President and the Council of Ministries to introduce bills, its original authority to legislate laws will be significantly paralyzed and become dependent on the will of the executive power. However, according to the second interpretation, it is believed that Article 60 needs to be read in the light of Article 80 providing the Council of Ministries with the authority to introduce bills, which is why the legislative power does not have the authority to introduce initiatives and it must be sent to the executive in order to be presented as bills all times. It is also worth mentioning that the interpretations of Article 60 may be different depending on how legislative initiative or bills are defined.

2.3.1 Legislative Initiatives

in general, in federal states, both houses have a right to present legislative initiatives to the legislative power. However, in the absence of the second house in Iraq, only the Council of Representatives has the right to present legislative initiatives. But

what does an initiative mean? Initiative is the first brick and the initial stage of law-making process, in which an idea is presented to the Council of Representatives to uphold it as law; as such, the initiative is part of the process and cannot be read outside the law-making process (Mohsen, 2014). As far as the initiative regulates an issue in the framework of the Constitution and sets the fundamental component of an act, it can change to a bill and then be legislated by the Council of Representatives.

In jurisprudence, initiative is defined as presenting bills to the legislature in order to legislate an act following the legal and constitutional procedures or as presenting bills to the authority determined by the Constitution (Yousuf et al., 2017).

Some constitutions such the Constitution of the United States (Article 1) vest the authority to present initiatives in the legislation; as an application of rigid separation of powers in such constitutions, the government does not have any legal authority to present bills. The Great Britain is an example of soft separation of powers, in which both the legislature (both houses) and the government have the right to present initiatives and bills together.

In Iraq, however, the legislative initiatives can be presented either by ten members or one of the specialized committees of the Council of Representatives to the Speaker of the Council of Representatives. The Council of Representatives By-law of 2007 provides that an initiative needs to be formulated in articles including the reasons of issuance (Article 120 of the CoR By-Law). Then, if the Speaker of the Council accepts it, they submit the initiative to the Legal Committee to prepare a full report. If accepted by the Council, the initiative will then be referred to the specialized committee for further study (see Article 122 of the CoR By-Law). It is noted that initiatives will not be presented to the Council of Representatives unless examined and reviewed by the legal and specialized committees.

2.3.2 Government bills

the executive initiatives are separated from legislative initiatives and are called “bills” because they are submitted after adequate research and

study by the government (Shubbar and Hameed, 2014). These technical complexities of some laws require technical capacities and resources that only the executive power possesses (Khalil, 2014). The purpose of entrusting this authority within the executive power is that the government, through daily execution of laws and the running public utilities, is in a better position to understand the needs of the society and the shortages and defects in the existing laws compared with other bodies of the state (Said, 2013). And this is a reason the “initiatives” are separated from “bills” in the two clauses of Article 60; bills are introduced by the executive power, whereas legislative initiatives are introduced by the legislative power.

As stated earlier, the issue in question is also linked to the doctrine of separation of powers and the nature of this separation in the Iraqi Constitution. The Article 47 provides that,

“The federal powers shall consist of the legislative, executive, and judicial powers, and they shall exercise their competencies and tasks on the basis of the principle of separation of powers.”

In the light of the above Article, the Constitution has adopted the doctrine of separation of powers by creating three independent powers exercising their authorities and tasks. In its first meaning, the doctrine guarantees that each power is equipped with all required means to exercise its authorities, and it is agreed that the authority to legislate laws needs an authority to introduce initiatives by the legislative power. Similar to the path taken by majority of parliamentary systems, the Constitution did not solely reserve the authority to present initiatives in the Council of Representatives; rather, it ensures that the government also participates through presenting bills to the Council of Representatives for the reasons explained earlier. As a result, both powers have authorities to present initiatives and bills.

This general rule, however, is not absolute because in some instances the Constitution restricts the Council of Representatives from presenting initiatives. For instance, the Article 80/4 of the Constitution states that the Council of Ministries is exclusively authorized to prepare the draft of the general budget, the closing account, and the

development plans. With this regard Article 62 provides that:

“First: The Council of Ministers shall submit the draft general budget bill and the closing account to the Council of Representatives for approval.

Second: The Council of Representatives may conduct transfers between the sections and chapters of the general budget and reduce the total of its sums, and it may suggest to the Council of Ministers that they increase the total expenses, when necessary.”

Therefore, in such subject matters, the authority of the Council of Representative is restricted and only the Council of Ministries have authority to present such bills.

It also noted in Iraq that political parties and coalitions in the parliament play a role in advancing the role of the government in the law-making process. For instance, a government with a secure parliamentary majority is able to use the majority to accelerate and decelerate the passage of any law proposal, and in particular cases, the government can take measures to guarantee the passage of a law through the parliament rapidly – even in a single day (Laver, 2008).

In conclusion, the legislative and the executive powers have authority to present initiatives and bills in parliamentary systems, and there is no difference between the two terms of “legislative initiative” and “bills.” The difference is rather, in the power that presents the two. This view is also supported by the fact that Iraq has adopted a soft separation of powers in its Constitution. It is true that the role of the executive power in this regard has been increasing because of the capacity, resources, and expertise available to the government. Because of the nature of the parliamentary system and fact that the Council of Ministries usually have the majority support, legislature is considered an essential factor for the increasing role of the government in law-making. For example, according to a survey comparing the passed laws by the Council of Representatives during 2006-2010, out of the 186 laws passed, only 39 were based on the legislative initiatives from the members of the Council, whereas the rest (147

laws) were presented by the government (Said, 2013). Similar figures were mentioned above in part two; In Great Britain during 2016-2017, 25 government bills received royal assents, whereas only eight private members' bills received royal assents (see, the UK Parliament surveys of 2016 and 2017).

3. The Role of the Federal Supreme Court of Iraq in the Law-Making Process

The fact that the Constitution addresses law-making in different chapters and articles using different terms for legislative and government bills and the increased role of the executive power in presenting bills create disputes over who has the authority to introduce initiatives and whether a legislative initiative is different from bills. These disputes have brought the role of the Federal Supreme Court in as a judicial reviewer of the Constitution, examining the constitutionality of laws that may violate the separation of powers in the process of law-making.

The research first explores the judicial review and its nature in Iraq and then examines the Federal Supreme Court's interpretations of the Constitution with regards to the law-making process.

The Law of Iraqi State for Transitional Period of 2004 granted judicial review power to the Federal Supreme Court in Article 44, and on the basis of that, the Prime Minister issued decree No. 30 of 2005, establishing the Federal Supreme Court. After that, the Constitution of the Republic of Iraq of 2005 re-established the Federal Supreme Court, and it provides in Article 92 that,

“First: The Federal Supreme Court is an independent judicial body, financially and administratively.

Second: The Federal Supreme Court shall be made up of a number of judges, experts in Islamic jurisprudence, and legal scholars, whose number, the method of their selection, and the work of the Court shall be determined by a law enacted by a two-thirds majority of the members of the Council of Representatives.”

Furthermore, Article 93 provides

“The Federal Supreme Court shall have jurisdiction over the following:

First: Overseeing the constitutionality of laws and regulations in effect.

Second: Interpreting the provisions of the Constitution...”

It is noted from the above articles that the Constitution of 2005 orders to establish a new Federal Supreme Court, replacing the previous Court that had been established by decree No. 30 of 2005. The new Federal Supreme Court is different from the prospective that its composition is different and it has new authorities including interpretation of the Constitution. The Constitution was not successful in establishing the Court itself and left it to be regulated by a law to be issued by the Council of Representative with two thirds of votes. However, since the establishment of the Constitution, it has not been able to enact the concerned law (Al-Maliki, 2011). Some believe that the current Federal Supreme Court does not have power to practice the judicial review under the Constitution of 2005 because it has been established before the Constitution was upheld in 2005 (Al-Mussawi, 2010). However, the Federal Supreme Court clarified in case no. 37 Federal 2010 that the legal basis for the continuance of the Federal Supreme Court lies in Article 130 providing that *“Existing laws shall remain in force, unless annulled or amended in accordance with the provisions of this Constitution.”* According to the decision, this research agrees that it is true that the Constitution of 2005 promises to establish a new Federal Supreme Court. However, since the Council of Representative has not been able to establish the new court, the current Court continues because it is based on a valid decree, decree no. 30 of 2005.

In this part, the research examines the Federal Supreme Court's interpretation of law-making process, including the Court's understanding of the basis of the parliamentary system, the doctrine of separations of powers, and the participation of the executive in the law-making process. However, before that, it must be noted that the nature of judicial review and interpretation of a constitution is characterized by its political feature, and politics

undoubtedly plays a role in the Supreme Court decisions (Al-Shawi, 1981; Al-Mahmoud, 2015). The role of politics rises when the Supreme Court is intended to be established by the legislative power, as in Iraq, or when the executive power reserves a great deal of power in appointing the Federal Supreme Court judges.

First: Narrow Interpretations of the Law-Making Process: In line with what was stated in the previous part, the Council of Representatives enacted two laws, namely, “Law of Disengagement of Directorates of Ministry of Municipalities and Public Works” and “Law of Disengagement of Directorates of Women Affairs in the Ministry of Labor and Social Affairs” in 2010. These two laws were enacted on the basis of legislative initiatives from the Committee of Labor and Public Services and then approved and issued by the Council of Presidency as per Article 60/2 of the Constitution. The government brought a claim before the Court regarding the constitutionality of the concerned laws. The Federal Supreme Court decided that these laws are unconstitutional in decisions 43 and 44 Federal 2010. The research will take main excerpts of the decisions and analyze the reasoning that the Federal Supreme Court reached.

- 1- *“Through reading the text of the Constitution, the Court found that the Constitution adopted the doctrine of separations of powers in Article 47 and bills need to be presented by the executive power or executive bodies because it is related to financial, political, international and social obligations, and the power who fulfills these obligations is the executive power as per Article 80 not the legislative power”*
- 2- *“the Constitution of the Republic of Iraq draws in Article 60 two methods through which bills are introduced, and they are the President and the Council of Ministries, and if introduced by other than these two, it will be in violation of Article 60/1.”*
- 3- *Article 60/2 of the Constitution allows the Council of Representatives to introduce legislative initiatives by ten members or by one of the specialized committees, and*

legislative initiative is an idea, and an idea is not a bill and needs to take one of the two methods [of Article 60/1] mentioned above.”

- 4- *“the Court found that the law was presented as an initiative by the Labour and Services Committee [of the Council of Representatives] and it was not a bill introduced by the executive power.”*

On the basis of the above reasoning, the Federal Supreme Court decided in cases number 43 and 44 Federal 2010 that the “Law of Disengagement of Directorates of Ministry of Municipalities and Public Works” and “Law of Disengagement of Directorates of Women Affairs in the Ministry of Labor and Social Affairs” are unconstitutional.

The Court first reads the Constitution, determining passages through which bills are introduced, and these two passages are exclusively reserved by the executive power, namely, the President and the Council of Ministries. Therefore, if they are presented by any other body, they will be in violation of Article 60/1. It is clear that the Federal Supreme Court reads that no law is enacted except those based on bills introduced by the executive power, because the executive power has an exclusive authority to introduce bills to the Council of the Representative (Al-Akili, 2010). Furthermore, the Court believes that a legislative initiative is an idea and idea is not a bill; if there is a legislative initiative by the members of the Council of Representatives or its committees, it needs to be sent to the executive power to examine it and turn it to a bill.

The research believes that the decisions of 43 and 44 Federal 2010 were not correct interpretations of the Constitution because of the following reasons:

- The Court mentioned the doctrine of separation of powers in Article 47, but did not, however, make an effort to explain how the doctrine works in the Iraqi parliamentary system. If the Council of Representatives has an original power to legislate laws as per Article 61/1 and other powers are prevented to participate in that authority, it is not correct to understand that

the legislative power legislates laws only if the government introduces bills, otherwise the legislative power's authority to legislate laws will actually be taken away significantly from the legislative power.

- The Court does not differentiate between legislative initiatives and bills on the basis of the body that presents them; rather, the Court based its definition on the content of initiatives and bills, believing that a legislative initiative is an idea and an idea is different from a bill. The Court depends on linguistic meaning of the terms instead of their conceptual meaning, where the legislative initiatives and bills are commonly used in the same meaning in Arabic e.g. the Kuwaiti and Egyptian Constitutions (Al-Qazwini, 2015). It was also suggested that the Court could have returned to the documents and the founders of the Constitution for its interpretation of Article 60/ 1 and 2 to clarify the ambiguity concerning the correct meaning of legislative initiatives and bills (Al-Qazwini, 2015).
- It was observed that this decision was in conflict with the previous decisions of the Federal Supreme in case no. 6 Federal 2010. As per the applicable laws and in case of judicial review claims, the Court firstly looks into the procedural requirements, and if these are approved, it then proceeds to the substantial part of the law. There was a claim that some of the articles in the amendment no. 26 of 2009 of the Law of Election No. 16 of 2005 were unconstitutional and were, therefore, reviewed by the Court. Regardless of the fact that the law was issued on the basis of a legislative initiative and did not go through the executive power, the Court did not touch upon the procedural part to declare the unconstitutionality of the law as it did with the latter in cases 43 and 44 Federal 2010. Instead, the Court went on to review the constitutionality of the content of the concerned law (Yousuf et al., 2017).

Second: Current Interpretation of law-Making Process: In 2015 and 2018, the Federal Supreme Court reviewed the same question regarding "Law of Replacement of Members of the Council of Representatives" enacted in 2006 and "Law of Third Amendment of the Law of Electing Members of the Council of Representative no. 45 of 2013." Similar to its preceding laws mentioned above, these two laws were enacted by the Council of Representatives on the basis of legislative initiatives, not introduced as bills by the executive power, and therefore, their constitutionality was challenged in the Federal Supreme Court. Referencing the precedents, the plaintiff argued that these laws did not go through the constitutional passages to the Council of the Representatives. In the 2015 decision, the Court found that the Constitution adopted the doctrine of separation of powers in Article 47 and the correct application of this Article requires that every power of the government exercise its authorities and jurisdictions stated in the Constitution. On the basis of this, the legislative power is granted the authority to legislate federal laws for public interests and can enact laws on the basis of legislative initiatives. However, in exercising this power, the Council of Representatives is obliged not to directly legislate laws infringing on the doctrine of separation of powers. The Court believes that the laws infringing on the doctrine are laws creating financial obligations on the government not incorporated in its planning or in the budget, laws that are in conflict with the ministerial plans, and laws that infringe on the authorities of the judicial power. The Court found that "Law of Replacement of Council of Representative Members" did not create any financial obligation on the government and was is not in conflict with the general policy of the government, and as such, it was constitutional.

In the second case no 99 Federal 2018, the Court addressed the plaintiff's argument that "Third Amendment of the Law of Electing Members of Council of Representatives" of 2018 was enacted on the basis of a legislative initiative and not a bill. The Court briefly addressed the motion and provided that "*another procedural appeal is that the law was in the initiative form, not a bill by the government, and regarding this appeal, the Court finds that this is permitted by Articles 61/1 and 60/2 of the Constitution and the Council of*

Representative By-law wherein the Council exercised its authority stated in the mentioned articles.”

The Court in these two decisions overruled the previous interpretation in 43 and 44 of 2010, that all laws must go through the executive power, and provides that legislative initiatives can be a method for legislating laws by the Council of Representatives without going through the government. The Court also creates a strong tie between Article 60/1 and 2 and Article 47 and states that any interpretation of Article 60 must be in the light of Article 47. The purpose of the connection is to draw a line between the two powers in the law-making process in examining the constitutionality of a particular law. It means that the legislative power is separated by the doctrine of separation of powers in Article 47, and the Constitution guarantees that it exercises its authorities without any infringement by one power on another power. So, what is that line? The Court believes that the separation of powers and Article 60/2 guarantee the Council of Representatives' power to legislate laws on the basis of initiatives from its members or the specialized committees as far as the subject of the law does not infringe on the doctrine of separation of powers. This infringement occurs when the initiatives put financial obligations on the government not incorporated in its planning or in the budget or initiatives that are in conflict with the ministerial plans. It should be said that the Court overcame the dilemma of linguistic meaning of initiative and bills and finally agreed on the fact that these two terms mean the same but are used differently because of the different source of initiative.

Although the new test overruled the previous test and drew a new line in the law-making process, this research believes that this line is not correctly drawn and it faces many legal challenges. First, the legislative power has an original authority to legislate laws, and this authority is original and not derived from any other authorities, and putting limitation on it not provided for in the Constitution is unconstitutional. The Constitution in Article 80/4, for instance, provides that only the Council of the Ministries is authorized to prepare the general budget bill and close account and the development plans. This the only part where the power of

Council of Representative to introduce initiatives is limited, as it is mentioned in the Constitution.

Also, the Court addressed the example of laws that creates financial obligations on the government. One may ask, what if the law creates other obligations such as political, social, and international obligations on the government? This blurred line between the legislative and executive powers that the Court established will certainly bring new cases to the Court in the near future. Having said that, these last decisions of the Federal Supreme Court are considered as good steps toward the correct understanding that the legislative power in the parliamentary form of government has an original authority to initiate laws, which should not be taken away from it.

4. Conclusions

This article has come up with the following conclusions:

- 1- The doctrine of separation of powers draws the line between the forms of government; either it completely separates the legislative, executive, and judicial powers with very limited interference, or it establishes a soft separation of powers, which is a character of the parliamentary systems. The Constitution of the Republic of Iraq has adopted a representative and parliamentary form of the government and established three federal powers of legislature, executive, and judiciary on the basis of the doctrine of separation of powers.
- 2- Law-making is vested in the legislative power in Iraq, and therefore, the legislative power has authority to enact, revise and amend, and abolish federal laws. With this regard, there are two methods of introducing initiatives – legislative initiatives by the members of the Council of Representatives or its committees or bills by the government.
- 3- The executive power of the government in Iraq has claimed on many occasions that the Council of Representatives cannot

enact laws unless introduced as bills by the government. This article concluded that this question is related to the doctrine of separation of powers, the adoption of the parliamentary form of government in Iraq, and the text of the Constitution, which provides two methods of presenting initiatives by the Council of Representatives and the government.

- 4- Because of disagreement, some cases were brought to the Federal Supreme Court. In 2010, the Court decided that the Constitution determines the passages through which an initiative will be presented; these two passages are *exclusively* reserved by the executive power, namely, the President and the Council of Ministries, and if they are presented by another power, it will be in violation of Article 60/1. This decision stated that legislative initiatives are different from bills, and in order to be law, they need to go to the government first. In doing so, the Court deprived an essential component of the original authority of the Council of Representatives to legislate laws in Iraq.

In 2015, the Court overruled the previous understanding that all laws must be based on government bills. The new interpretation guarantees that the Council of Representatives can present initiatives directly to itself through its members and/or specialized committees, and it can therefore legislate laws on the basis of legislative initiatives but with a number of limitations, including occasions where a law creates financial obligations on the government.

The new understanding of the Court is considered a good step toward the correct interpretation of the law-making process, which is that there are no limitations on the authority of the Council of Representatives to legislate laws on the basis of its initiatives, unless prohibited by the Constitution, such as in case of the general budget-related laws.

5. Recommendations

In line with what is common in presidential forms of government around the world and to avoid further disagreements between the executive and legislative powers in Iraq on the authority to initiate bills, it is recommended that Article 60 is amended. This amendment will also put an end to different interpretations of the Federal Supreme Court as analyzed in the research.

References

Books:

- Dana Abdul-Karim Said, (2013). The Role of Parliament in Contemporary Parliamentary Systems [دور البرلمان في الانظمة البرلمانية المعاصرة]: Al-Halabi Legal Publications, Beirut.
- Jaffar Kadhmi Al-Maliki. (2011). Reference in the Federal Supreme Court [المرجع في قضاء المحكمة الاتحادية العليا]: Atik for Book Creation, Baghdad.
- Latfi Mustafa Amin (2007). The Doctrine of Separation of Powers and its Unity and their Implementation in Iraqi Constitutions [مبدأ الفصل بين السلطات ووحدها وتطبيقهما في الدساتير العراقية]: Hamdi Print and Publication, Sulaimanayah.
- Madhat Al-Mahmood, (2014). The Judiciary In Iraq: iUniverse LLC, Bloomington.
- Mundhr Al-Shawi, (1981) Constitutional Law (Theory of Constitution) [القانون الدستوري (نظرية الدستور)]: Al-Qadisa House for Publication, Baghdad.
- Mureed Ahmed Abdul-Rahman. (2006) The Balance between the powers of legislative and executive [التوازن بين السلطتين التشريعية والتنفيذية]: Dar Al-Nahda Al-Arbia, Cairo.

Articles and Journals:

- Abdul-Azim Jabir Hafedh. (2015). The Problem of Political Parliamentary System in the Republic of Iraq's Permanent Constitution of 2005, Journal of International Studies, (63).
- Maurice Duverger. (1980). A new political system model: semi-presidential government, European Journal of Political Research, (8).
- Michael Laver. (2008). Legislatures and parliaments in comparative context, The Oxford Handbook of Political Economy, (15).
- Mohamad Abbas Mohsen (2014). Law proposals between the legislative and the government initiatives [اقتراح القوانين بين المبادرة التشريعية البرلمانية والمبادرة الحكومية], Academia for Social and Human Studies, 11.
- Mohamad Hilal Al-Rafahi and Mohamad Hussein. (2010) Development of the role of the executive power in law-making process in the us presidential system [تنامي دور السلطة التنفيذية في العملية التشريعية في النظام الرئاسي الأمريكي], Journal of University of Damascus for Economic and Legal Sciences, (26) 2.
- Mohsen Al-Qazwini (2015). The right of the parliament in legislating laws in iraq's constitution of 2005 [حق مجلس النواب في تشريع القوانين في دستور العراق لعام ٢٠٠٥], Ahl Al-Bait Journal, (1) 18.
- Raafii Khudher Saaleh Shubbar and Waleed Hassan Hameed (2014) The legal organization of parliamentary system in the constitution of republic of Iraq, Al-Mouhakiq Hilli Journal for Legal and Political Studies, (6).

- Sahar Kamil Khalil (2014) The legislative power in the Iraqi constitution of 2005 [السلطة التشريعية في العراق في ضوء دستور ٢٠٠٥], Journal of Political Issues- Al-Nahrain University, 14.
- Shahab Ahmed Abdula, (2018). The Role of the Federal Supreme Court in Strengthening the Doctrine of Separation of Powers [دور المحكمة الاتحادية العليا في تعزيز مبدأ الفصل بين السلطات], Journal of Political Issues- Baghdad University, 2.
- Thomas O. Sargentich, (1993). The presidential and parliamentary models of national government, American University International Law Review, (8) 2/3.
- Mohamed Yousuf, Mohamed Ganam and Firas Makia (2017). The Legislative Power of the Council of Representatives [السلطة التشريعية لمجلس النواب], The Arab Association of Constitutional Law. Tunisia.

Constitutions and Laws:

- The Constitution of the Republic of Iraq- 2005
- The Iraqi Council of Representatives By-law of 2007
- The Law of Iraqi State for Transitional Period of 2004
- Decree no. 30 of 2005

Judicial Decisions:

- The Federal Supreme Court of Iraq, Decision No. 21 Federal 2015
- The Federal Supreme Court of Iraq, Decision No. 43 Federal 2010
- The Federal Supreme Court of Iraq, Decision No. 44 Federal 2010
- The Federal Supreme Court of Iraq, Decision No. 99 Federal 2018
- The Federal Supreme Court of Iraq, Decision No. 06 Federal 2010
- The Federal Supreme Court of Iraq, Decision No. 37 Federal 2010

Online Sources:

- HOUSE OF LORDS PUBLIC BILL SESSIONAL STATISTICS FOR SESSION 2016-2017, available at <<https://www.parliament.uk/documents/publications-records/House-of-Lords-Publications/Records-activities-and-membership/Public-bill-statistics/HL-Public-Bill-stats-2016-17.pdf.pdf>> [Accessed on 16.01.2019]
- UK parliament, available at <<https://www.parliament.uk/site-information/glossary/royal-assent/>> [Accessed on 16.01.2019]
- Rahim Hassan Al-Akeli, No Law but through the executive power [لا تشريع الا عن طريق السلطة التنفيذية], available at <<http://burathanews.com/arabic/articles/104785>> [Accessed on 16.01.2019]

Influence of Teacher-Student Relationships on Students' Loneliness in Coeducational and Single-Gender Public Secondary Schools in Kenya: a case of Murang'a County

Baru Peter^{1*}, Zachariah Kariuki¹, Ndegwa Lucy¹, Johannes Njoka¹

¹Department of Education, School of Education and Social Sciences, Karatina university, Karatina, Kenya.

*Corresponding author's email: petermbaru@gmail.com

Received: 28/07/2019

Accepted: 23/01/2020

Available online: 30/06/2020

ABSTRACT

The objective of this study was to compare the influence of teacher-student relationship on students' loneliness in single-gender and coeducational schools. The study was conducted in 312 sub county public secondary schools in Murang'a County, in central Kenya. A cross-sectional survey design was used. Stratified random sampling was used to get a sample of 435 participants out of 12,400 students in coeducational and single gender boarding schools. Loneliness was measured using Perth A-loneness (PAL) loneliness scale, whereas TEACHER-STUDENT RELATIONSHIPS was measured using 10 statements with graded responses in a five-point Likert scale developed for this study. The PAL and TEACHER-STUDENT RELATIONSHIPS scales together with personal data questions formed parts of the self-administered questionnaire. The questionnaire was administered by research assistants during normal school days. Correlation and regression analysis were performed using the Statistical Package for the Social Sciences (SPSS) version 20. TEACHER-STUDENT RELATIONSHIPS s were found to be inversely and highly significantly related to loneliness. Regression analysis revealed that TEACHER-STUDENT RELATIONSHIPS s predict between 3.0% and 8.0% of loneliness among students, depending on gender and school type.

Keywords: coeducational, Gender, Loneliness, students, Teacher-Student Relationships

1. INTRODUCTION

Loneliness is an unpleasant emotion arising from awareness of social deficiency. It is the

Access this article online	
DOI: 10.25079/ukhjs.v4n1y2020.pp50-57	e-ISSN: 2520-7806
Copyright © 2020 Peter et al.. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).	

perceived difference between the desired and the present levels of quantity and quality of relationships. Loneliness is not synonymous with

solitude, aloneness, or isolation (Peplau & Perlman, 1979). A person can be lonely amidst a crowd to which they desire no connection. It is also possible that one is alone and not lonely but enjoying the solitude. It is a dissatisfaction that is felt subjectively and may be perceived as temporary or enduring because the person assesses self as able or unable to cope with the situation. If a person attributes the cause of loneliness to something beyond his or her control, it can become painful and depressing. Loneliness can be due to limited social-emotional contact and isolation. People at every age, such as children, adolescents, and adults, describe the experience of loneliness as undesirable, painful aloneness (Galanaki &

Vassilopoulou, 2007; Houghton, Hattie, Wood, Carroll, Martin, & Tan, 2014). Many negative outcomes in life have been significantly linked to loneliness; for example, low academic engagement and achievement, poor psychological adjustment, poor social skills acquisition, mental and physical health challenges, and truancy and dropping out of school (Murphy, Murphy, & Shevlin, 2015; Stickley, Koyanagi, Kuposov, Schwab-Stone, & Ruchkin, 2014; Frostad, Pjil, & Mjavaatan, 2015). Loneliness has been shown to be the most powerful predictor of mortality in longitudinal studies of older adults (Qualls, 2014). Loneliness is a major source of distress and a developmental risk that can predispose children to immediate and long-term negative consequences (Sharabi, Levi, & Margalit, 2012). Students who experience loneliness more often and intensely than others are at risk of poor development in multiple domains of functioning and are more prone to emotional problems such as depression and anxiety (Jobe-Shields, Cohen, & Parra, 2011). Thus both intensity and frequency are important aspects in the outcomes of loneliness.

In an inviting school model, people, policies, place, programs, and school processes were identified as important components in determining school climate. Furthermore, people factors were singled out as the most important of factors influencing the school climate (Novak & Purkey, 2008). In a school, the people that interact with students the most are teachers, other students, and support staff. This was highlighted by Vickers, Finger, Barker and Bodkin-Andrews (2014) who, while developing a measure for the impact of social relations and values on education, identified teacher-student and student-student relationships as key areas contributing to the social environment in a school. Later, Latsch (2018) found that social relationships in school play a critical role in adolescents' wellbeing and states that teacher-student relationships and student-school belongingness are the major contributors to students' emotional and psychosocial wellness and, specifically, to students' stress, depression, and loneliness. Mouratidis and Sideridis (2009) observed that perceived social relationships in schools' context shape the life of a student, making school a major contributor to socialization and psychological wellbeing.

1.2 School contexts

In Kenya, public schools can either be of mixed gender or single gender. The school can also be a boarding school or day school. Boarding schools are characterized by restriction of movement in and out of school for students, except during open days when parents and guardians can visit the students. The schools are manned by teachers, and students' time is programmed in such a way that they have little time for self-directed activities. A major portion of their time is taken by academics. The boarding facilities are more likely to be outstretched and congested. Students' diets are usually repeatedly monotonous. In mixed gender schools, facilities like fields, halls, means of transportation and classrooms are shared. Only the sleeping areas are assigned separately according to gender. Students in Kenya spend more than 75% of their time in school; the school environment impacts the growth and development of the students more than other social environments.

In school, learners interact with teachers in a bidirectional way, whereby learners cause changes in teachers' behaviors and teachers' actions influence the students. Shaunessy and McHatton (2008) found that students described a caring teacher as one who knows the subject matter, teaches for the students' understanding, maintains high expectations, provides constructive feedback, and models a caring attitude. These teachers' attributes communicate care to the students; thus, teachers' with such behaviors are likely to get a positive response from students. Teachers and students interact formally in the classroom and informally during school functions and co-curricular activities. The quality of interactions in the two dimensions could lead to closeness and warmth or to a distant, cold, and conflictual relationship.

Teachers coach and encourage students to adopt gender stereotypes in the community, which influences the relationships in schools and serves to perpetuate the stereotypes. Clark (2004) remarked that schooling is a social process through which social values and statuses of the community are maintained because teachers seize the opportunity to guide the students into the desired behaviors required to fit in the society. Girls were affected

more in a coeducational school because they adopted the role of 'caretakers' for the boys (Jackson, 2002), which matches well with the patriarchal society where femininity was strongly identified with serving the male. Moreover, compliant girls were popular among their peers and teachers, thus reinforcing their behavior.

Huyge, Dimitri, and Houtte (2014) reported that boys' behavior tallied with hegemonic masculinity characterized by self-determination, competition, assertiveness, rejection of authority, aggression, and defiance. Schools did not tolerate boys' behavior because rules and regulations of learning institutions favored the unquestioning compliance of femininity. Clark (2004) noted that many school hours were spent managing boys' behavior, denying girls opportunity to interact with teachers. Boys' behaviors would affect the teachers' response and most likely lead to a negative relationship. Conversely, girls would be praised and have positive relationships because they comply with school expectations, (Huyge, Dimitri, & Houtte, 2014). Popularity among peers is one of the social needs of students. Boys and girls are likely to compete for teachers' attention in coeducational schools. Thus, we suspect that gender is a factor that affects teacher-student relationships and, by doing so, varies its power in determining loneliness.

Cross-gender interactions and relationships are a major developmental task during adolescence. When genders are segregated, cross-gender anxiety may take root and hinder attempts by a boy or a girl in starting and establishing a stable, lasting relationship. Wong, Shi, & Chen, (2018) observed that cross-gender anxiety may lead to low self-esteem, low assertiveness, depression, and loneliness. It was noted that gender anxiety was more in boys than girls. This means that boys in coeducational schools will have less successful relations with girls, which may aggravate loneliness levels. Therefore, we predict higher loneliness levels for boys in coeducational schools than for girls.

Picho and Stephens (2012), in their study on gender and performance, described a phenomenon of stereotype threat as fear to confirm a negative belief associated with a group. Stereotype threat was

found to be correlated with gender identity, locus of control, and stigma consciousness. It was also noted that the threat was higher in coeducational schools than in single gender schools. This means gender stereotypes' vigilance can be observed in the presence of the opposite gender and may be a source of anxiety and loneliness.

Poulou (2015), while studying teacher-student relationships concluded that supportive teacher-student relationships resulted in good connectedness to the school and low level of loneliness. Latsch (2018) sums it up by stating that an environment where a student does not experience support from teachers and acceptance by peers increases the risk of loneliness.

Students long for relationships in which they are respected and their opinions are accommodated. This acceptance satisfies their need for belongingness and they will likely display higher commitment and effort toward school work. However, conflictual relationships result in disengagement for students and stress and burn-out for teachers. Students who had conflictual relationships with teachers had more behavior problems and poor academic performance (Baroody, Kaufman, Larsen, & Curby, 2014).

Stereotype stress is the fear or anxiety to confirm a stereotypic behavior and is more real when the opposite gender is present. Clark (2004) pointed out that in presence of boys, girls will be more conscious of their behavior and strive to comply with social expectations than when they are with other girls. Coeducational schools provide an opportunity for cross-gender relationships, which could influence the quality and quantity of student-student relationships. In addition, the presence of boarding and day schools brings in the difference in restrictions to the boarders, because they have limited interaction with neighbors and family members. The day scholars lack time to interact with teachers as opposed to boarders, who are under the care of the teachers most of the time. Therefore, differences in teacher-student relationships as well as in levels of loneliness are expected owing to the differing contexts, calling for different loneliness management approaches.

Baig (2014) observes that teacher-student interactions are a reflection of the society's way of life and usually loaded with gender stereotypes. Some teachers take it on themselves to guide students into appropriate gender roles. This, taken together, implies that gender segregation in schools will elicit different teacher expectations and behaviors. Despite loneliness being an important health concern among the adolescents and the teacher-student relationship being a major defining relationship in schools, few studies were found to investigate the influence of teacher-student relationships on loneliness under varying school contexts. Therefore, this study seeks to establish how teacher-student relationships vary and influence loneliness among students in different schools' contexts.

The following questions guided the study :(a) Is there a difference between coeducational and single gender schools' in teacher-student relationships by gender?(b) Is there a difference between coeducational and single gender schools students' loneliness by gender?(c) How do teacher-student relationships determine students' level of loneliness in coeducational and single gender schools and by gender?

2. METHODOLOGY

A quantitative research approach using a cross-sectional survey design was used in this study. The research was conducted in public sub county secondary schools in Murang'a County, which is in the central region of Kenya. Stratified random sampling method was used to select 12 out of 312 schools to participate in the study, with each school type forming a stratum. From the selected schools, form two students were randomly selected to participate in the study. Form two students were chosen because they had interacted with teachers over a significant amount of time and they were in middle adolescence—when loneliness is at its peak (Ugur & Tarik, 2008). Out of a population of 1,340 students of form two in the sample schools, 435 students were selected for the study from the two types of schools. There were 243 participants (144 boys and 105 girls) from single gender boarding schools and 192 (87 boys and 105 girls) from coeducational boarding schools.

After obtaining permission from the National Commission for Science, Technology and Innovation, State Department of Early Learning & Basic Education, and school administration, the research instruments were administered to students during regular school hours by trained research assistants. The collected data were coded and analyzed using Statistical Package for the Social Sciences computer program (SPSS, version 20). First, descriptive statistics of the data were obtained. Spearman rank correlation coefficients were calculated, and regression analysis was performed to determine the influence of teacher-student relationships on students' loneliness and the extent to which it teacher-student relationships predicted loneliness.

2.1 Instrumentation

A personal data form was used to capture students' age, gender, and school type. Loneliness, being a deficit measure of desired and current satisfaction in a relationship, can be viewed in a continuous spectrum from zero to a full manifestation. The words describing the level of loneliness help participants to locate the deficit according to their subjective experience. Designating numerals in a Likert scale helps express loneliness in a continuous manner, with measures ranging from least to highest. Similarly, the teacher-student relationships were viewed as dynamic and could assume any position in the scale, from lowest to highest, depending on students' perception. Thus, the two instruments resulted in a continuous data scale.

2.2 Teacher-student relationship scale

The teacher-student relationships scale was adopted from the study by Vickers et al. (2014) developed by the researchers for this study. It comprised 10 statements articulating various aspects relations between teachers and students. The responses were noted in a Likert scale. Positively worded statements like "Teachers in this school are friendly to students" were scored from 5 to 1 (*strongly agree*= 5; *agree*=4; *not sure*= 3; *disagree* = 2; and *strongly disagree*=1), whereas negatively worded statements such as "I have no teacher whom I can tell my problem" were scored in a reverse manner (*strongly agree* = 1; *agree* = 2; *not sure* = 3;

disagree = 4; and *strongly disagree* = 5), so that higher scores reflected better relationships with teachers. The average score for teacher-student relationships was calculated by dividing the raw score for the 10 items by 10. Thus, the final representative scores for respondents ranged from 1 to 5. Higher teacher-student relationships' scores corresponded to better relationship between the student and the teacher. The scale was piloted in similar schools in Kiambu County and improved by faculty members. The reliability index of this scale was calculated and found to be good ($\alpha=0.82$; $p<0.05$).

2.3 Loneliness scale

Perth A-loneness (PAL) loneliness scale, which is a multidimensional scale that measures loneliness using 24 Likert-scaled items covering four dimensions, namely friendship, isolation, positive attitude toward solitude(PATS), and negative attitude toward solitude(NATS) (Houghton et al., 2014) was used. Each subscale used six statements

and six point descriptors: *never*=1, *rarely*=2, *sometimes*=3, *often*=4, *very often*=5, *always*=6. These items were worded such that there was a balance of negative and positive items. Thus, each subscale had a minimum of 6 marks and a maximum score of 6×6 or 36. The total for each subscale was divided by six to get a representative score for the participant. A total loneliness score was calculated as a total of the four representative scores from the four subscales divided by four. Cronbach alpha coefficient for reliability of the subscales was acceptable: friendship (0.79), isolation (0.86), PATS (0.84), and NATS (0.75) for this study. A personal data form was also used to capture demographic data of gender, age, and type of school.

3. FINDINGS

The variables of age, teacher-student relationships and loneliness were analyzed by gender in the study. The results are shown in Table 1.

Table 1: Gender, Type of School, Age, Loneliness Score, Teacher-Student Relationships/Loneliness Correlations, and Coefficients of Determination

School type	Gender	N	Age (years)		PAL scores		TSR scores		R	R ²
			Mean	Std dev	Mean	Std dev	Mean	Std dev		
Single-sex boarding	Boys	144	17.09	1.19	2.81	0.65	3.76	0.89	-0.288**	0.083
	Girls	99	15.86	1.23	2.94	0.83	3.96	1.00	-0.114	0.013
Mixed-sex boarding	Boys	87	16.71	0.91	2.79	0.63	4.06	0.67	-0.244*	0.060
	Girls	105	16.59	1.15	3.02	0.79	3.61	0.82	-0.283**	0.080

Key: *Level of significance $p < 0.05$, ** $p < 0.01$. R = correlation coefficient between loneliness and teacher-student relationships. R² = coefficient of determination.

The sample comprised of 231 boys (53.1%) and 204 girls (46.9%); thus, each gender was fairly represented. The average age of the boys was 16.95 years, whereas that of girls was 16.25 years. The sample mean age of 16.61 years indicates that the students were in the middle adolescence stage of development, which is known to be a peak for loneliness in life.

3.1 Teacher-students relationships by school type and gender

Boys' teacher-student relationships level was better in coeducational boarding schools (4.06) than in single gender boarding schools (3.76). It was further observed that teacher-student relationships

scores (3.76) of boys who went to single gender boarding school were significantly lower than those (4.06) of boys who went to coeducational boarding schools. It can be concluded that separating boys from girls leads to poor teacher-student relationships. For girls, better teacher-student relationships scores were noted in single gender boarding schools (3.96) than in coeducational boarding schools (3.61). T-tests were conducted, and the mean score (3.96) for girls' teacher-student relationships in single gender schools, was found to be significantly higher than the (3.61) for coeducational boarding schools ($p < 0.05$). Thus putting boys and girls together in a school led to poorer teacher-student relationships for girls. Coeducational schools favored boys' relationships with teachers but not that of girls.

3.2 Loneliness scores by school type and gender

Loneliness mean score for girls in coeducational boarding schools was 3.02 which was higher than the score 2.94 for girls in single gender schools. T-test between the loneliness scores showed that the difference was not significant ($p > 0.05$). Boys in single gender schools had a loneliness mean score of 2.81 which was higher than 2.79 for boys in coeducational boarding schools. Although girls are lonelier than boys in both coeducational and single gender boarding schools, t-test revealed that there were no significant differences between the scores ($p > 0.05$). Thus, we can conclude that boys are as lonely as girls because there were no significant differences in their loneliness scores and the differences could be only by chance. This finding agrees with that of Ilhan (2012).

3.3 Correlations between teacher-student relationships and loneliness

This study sought to establish a relationship between teacher-student relationships and loneliness among students in different schools' contexts. Pearson correlation coefficients between teacher-student relationships and loneliness were calculated in Table 1. In single gender boarding schools, boys' Pearson correlation coefficient was $r = -0.288$; ($p < 0.01$). In same category, girls' correlations were weak and non-significant ($r = -0.114$; $p > 0.05$). The relationship between teacher-

student relationships and loneliness was highly significant and fairly strong for boys and not girls in single gender boarding schools. Both girls and boys in coeducational boarding schools, had highly significant correlations between teacher-student relationships and loneliness of fair strength of $r = -0.244$, $p < 0.05$ and $r = -0.283$, $p < 0.01$, respectively. Although similar in strength and direction, the dynamics behind the observations could be different for the genders.

It was found that the correlations between teacher-student relationships and loneliness were negative in the two types of schools. Inverse relationship means that improvement in teacher-student relationships led to a decrease in students' loneliness. It is observed that good teacher-student relationships act as a protective factor against loneliness.

It was observed that there were highly significant relations between teacher-student relationships and loneliness for boys in both single gender and coeducational boarding schools. Thus, it is likely that restriction to the school compound resulted in greater amount of attention given to teachers by boys. For girls there is highly significant relationship between teacher-student relationships and loneliness in coeducational boarding and not in single gender schools. May be the presence of boys raised girls' sensitivity to the relationships' compliance and girls competed for teachers' approval in coeducational school more than those in girls-only schools.

3.4 Regression analysis and teacher-student relationships' power to determine loneliness

This study sought to find out to what extent teacher-student relationships can predict levels of loneliness in varying schools' contexts. The power of teacher-student relationships in predicting loneliness was investigated. Teacher-student relationships scores were regressed against loneliness scores. Coefficient of change (R^2) was calculated for different schools' contexts (Table 1). In single gender schools, teacher-student relationships could predict 8.3% of cases of loneliness for boys and only 1.3% for girls against 6.0% and 8.0% in coeducational boarding schools, respectively. It was observed that the ability of teachers-student

relationships in determining levels of loneliness varied from 1.3% to 8.3%. Teacher-student relationships impact was more in coeducational schools than in single gender schools for girls.

4. DISCUSSION

As the students grow older, there is an emergence of great interest in them to contact others and establish permanent social bonds with other students as well as with other adults in their environment. This makes students' relationships with teachers at school become important in determining their behavior and hence a tendency to develop loneliness. Boys' loneliness in single gender boarding schools had a significant relationship with teacher-student relationships. This relationship had a coefficient of determination of $R^2=0.083$. In coeducational boarding schools, both girls' and boys' loneliness had a significant relationship with teacher-student relationships and a factor of determination of $R^2=0.080$ and $R^2 = 0.060$, respectively. The boys had lower than girls weighting of the teacher-student relationships-loneliness bond. In the coeducational boarding schools, girls seemed to be reacting to the presence of boys and the apparent attention boys got from teachers. This finding is in line with the observations of Clark (2004) and Milligan (2014) that teachers gave more attention to boys than girls in coeducation classrooms. Whether the attention to boys was due to indiscipline or good behavior, the boys ended up enjoying it. Thus, the boys would be reaping from the teachers' behavior. The girls' response could be that of feeling neglected and discriminated against boys. With such perception, girls may respond by increased sensitivity and constant negative evaluation of teacher-student relationships.

Velasquez, Santo, Saldarriaga, Lopez, & Bukowski (2010) found that the presence of the other gender reinforces group-stereotyped behavior. Boys and girls interact, influence each other, and amplify gender stereotyping of behaviors, and attitudes are likely to be more pronounced in coeducational schools than in single gender schools owing to stereotype accessibility (Brutsaert, 2006). Thus, the differences observed by valuing teacher-student relationships of boys and girls in mixed- and single gender schools could be sustained by the presence

of the other gender. Girls seem to be more sensitive to teacher-student relationships gaps when boys are present (Clark, 2004). However, it was not established as to the number of boys that would make girls respond sensitively or compete for teachers' attention.

5. CONCLUSION

The importance of teacher-student relationships in determining students' loneliness has been established in this study. The factor of determination of teacher-student relationships was varying depending on the school contexts. Single gender boarding schools' students' loneliness was found to be highly and significantly influenced by teacher-student relationships. We conclude that teacher-student relationships are a major factor in determining loneliness in boarding schools for both girls and boys.

The role of teacher-student relationships in determining students' loneliness becomes less significant when the opposite gender is present, and shifts to weak and non-significant levels for boys. This observation can be explained by the compensatory ability of relationships. The boys tend to focus more on peer relationships in the presence of girls, thus diminishing the impact of teacher-student relationships on their loneliness. The dynamics of gender interactions that reduced the importance of teacher-student relationships as a major determinant of loneliness to an insignificant one needs to be investigated further.

The cultural background of the students determines their values and definition of femininity and masculinity. This study was conducted among the Kikuyu ethnic group, which is highly patriarchal. A study in another community may bear different results. Further research is needed to look into the dynamics of teacher-student relationships in influencing students' loneliness in various schools' contexts and cultures.

Gender variations were observed in the way teacher-student relationships influenced loneliness in single gender and coeducational schools. The number of students of the opposite gender to be present in a school in order to strike a balance point, where teacher-student relationships has equal

influence on loneliness for both genders needs to be investigated for the benefit of coeducation schools.

REFERENCES

- Baroody, Kaufman S., Larsen R., and Curby T. (2014). The link between responsive classroom training and student-teacher relationship quality in fifth grade: a study of fidelity of implementation. *School psychology review*, 43, (1) 69-85.
- Brutsaert H. (2012) Gender-role identity and perceived peer group acceptance among early adolescents in Belgian mixed and single gender schools. *Gender and Education*, 18(6). 635–649
- Clark, I. (2004). Co-education and gender: The end of the experiment? *Education Policy Analysis Archives*, 12(41). <http://epaa.asu.edu/epaa/v12n41>
- Frostad P., Pjil S.N., and Mjåvatn P.E. (2015). Losing all interest in school: social participation as a predictor of the intention to leave upper secondary school early. *Scandinavian journal of educational research*. 59 (1) 110-122.
- Galanaki, E., and Vassilopoulou, H. (2007) Teachers and children's loneliness .a review of literature and educational implications *European journal of psychology of education*,22(4) 455-475
- Houghton S., Hattie J., Wood L., Carroll A. Martin K. and Tan C. (2014) Conceptualizing loneliness in adolescents: development and validation of a self-report instrument. *Child Psychiatry and Human Development* (45) 604–616.
- Ilhan T. (2012). Loneliness among university students: predictive power of sex roles and attachment styles on loneliness. *Educational sciences: theory and practice*. 12(4)2387-2396.
- Jobe-Shields L., Cohen R., and Parra G. (2011).Patterns of change in children's loneliness trajectories from third through fifth grades. *Merrill-Palmer Quarterly* , (57) 1
- Latsch A. (2018). The interplay of emotional instability and socioenvironmental aspects of school during adolescence. *European journal of educational research* 7, (2), 281-293.
- Lerner, R. M. (1991). Changing organism–context relations as the basic process of development: A developmental contextual perspective. *Developmental Psychology*, 27, 27–32. <http://dx.doi.org/10.1037/0012-1649.27.1.27>
- Mouratidis A. and Sideridis G. (2009). On social achievement goals: their relations with peer acceptance, classroom belongingness, and perceptions of loneliness. *The Journal of Experimental Education*, 77 (3), 285–307
- Murphy S., Murphy J. and Shevlin M. (2015) Negative evaluations of self and others, and peer victimization as mediators of the relationship between childhood adversity and psychotic experiences in adolescence: the moderating role of loneliness. *British journal of clinical psychology* ,54, 326-344
- Peplau, L. A., and Perlman, D. (1982). Perspectives on loneliness. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy* (pp. 1–20). New York: Wiley.
- Poulou, M. (2015). Teacher-student relationships, social and emotional skills, and emotional and behavioural difficulties. *International Journal of Educational Psychology*, 4(1), 84-108. doi:10.4471/ijep.2015.04
- Purkey, W., and Novak, J. (2008). *Fundamentals of invitational education*. Kennesaw, GA: International Alliance
- Qualls S.N., (2014) Yes, health and social relations are inextricably connected. *Journal of American research on aging*.34 (1)
- Raufelder1, D., Bukowski, W. M., and Mohr, S. (2013).Thick description of the teacher-student relationship in the educational context of school: results of an ethnographic field study *Journal of Education and Training Studies* 1,(2). doi:10.11114/jets.v1i2.108
- Sharabi, A., Levi, U. and Margalit M.(2012). Children's loneliness, sense of coherence, family climate and hope: developmental risk and protective factors.*The Journal of Psychology*, 146(1–2), 61–83.
- Shaunessy E. and McHatton P. A., (2008). Urban students' perceptions of teachers: views of students in general, special, and honors education. *Urban Review* 41:486–503 DOI 10.1007/s11256-008-0112-z
- Stickley A., Koyanagi A., Kuposov R.,Schwab-Stone M., and Ruchkin V.(2014). Loneliness and health risk behaviours among Russian and U.S. adolescents: across-sectional study. *BMC Public Health* 14:366 doi:10.1186/1471-2458-14-366.
- Ugur Ö. and Tarik T. (2008) Correlates of loneliness among university students. *Child and adolescent psychiatry and mental health* 2:29. doi:10.1186/1753-2000-2-29
- Uslu, F., and Gizir, S. (2017). School belonging of adolescents: The role of teacher–student relationships, peer relationships and family involvement. *Educational Sciences: Theory & Practice*, 17, 63–82. <http://dx.doi.org/10.12738/estp.2017.1.0104>
- Velasquez A. M., Santo J. B., Saldarriaga L.M., Lopez L.S. and Bukowski W. M., (2010). Context dependent victimization and aggression. *Merrill-palmer quarterly*, 56, (3) 283-302.

Conceptual Evolution and Fundamental Challenges in Transition from Cold War Security Discourse and Emergence of Human Security Discourse in the Age of Globalization

Neven S. Wali^{1*}, Sherzad A. Ameen Al-Najjar²

¹Department of International Relations, Faculty of Law and International Relations, Soran University, Erbil, Kurdistan Region, F.R. Iraq

²Department of Political Science, College of Political Science, University of Salahaddin-Erbil, Erbil, Kurdistan Region, F.R. Iraq

*Corresponding author's email: neven.alsalihi@gmail.com

Received: 26/11/2019

Accepted: 16/01/2020

Available online: 30/06/2020

ABSTRACT

It is widely accepted that human security is one of the latest, most critical topics in the political science literature and international relations. This concept proposes that the origin or goal of security provision must be human beings. In fact, human security has the concept of 'the human' embedded at the heart of it. With a more extensive interpretation, human security has extended the scope of security and has assessed social and economic issues within this framework. Understanding human security requires the comprehension of its conceptual evolution process. Therefore, the first question to ask is: what type of changes the concept of human security has undergone in the two periods before and after the Cold War? To realize this issue, we evaluated some of the most important international efforts and documents related to the concept and derived the significant factors and subcategories in two periods. Despite following the evolutionary process of human security and becoming one of the most important security discourses, this concept still deals with serious challenges in conceptual and functional areas. Therefore, the second and main question of the present study was: what is the nature of key challenges of human security discourse at national and international levels? To answer this question, we used the exploratory approach and a descriptive-analytical method to explain the most important challenges facing human security in conceptual and functional dimensions.

Keywords: Human Security, Cold War, Globalization, Conceptual Evolution, Conceptual and functional challenges

1. INTRODUCTION

Among different factors, security has always been a human innate need and its

provision has always been one of the most vital existential philosophy of governments .

In addition to being the most fundamental human need, establishment of security can lead to the provision of basic needs (physiological) and lay the foundation for provision of other needs, such as a sense of belonging and flourishing. Without a doubt, the element of security and providing community peace are the most important factors for

Access this article online

DOI: 10.25079/ukhjss.v4n1y2020.pp58-68

e-ISSN: 2520-7806

Copyright © 2020 Wali and Al-Najjar. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).

progress, development and evolution, as well as the flourishing of talents, and social development, creativity and value creation are not possible without security. In fact, security is recognized as the prerequisite for a healthy community and a sense of security lays the groundwork for human societies. In addition, the well-being of a community depends on maintaining the security (Mandel, 1994).

Identified as one of the most recently emerging discourses, the concept of human security is philosophically the result of development and deepening of what was formerly recognized as security. It means that new responses were given to main questions that have always been asked about security; questions such as security for whom and what values? Security against which threats and with what measures? The concept of human security was seriously raised in response to these questions in Helsinki Agreements in 1975 for the first time. The following events such as peacekeeping operations and humanitarian interventions played a significant role in the development of human security concept (Kaldor, 2011: 441). A clear representation of these effects was observed in the United Nations Development Program (UNDP) report in 1996, where Mahbub ul Haq, a Pakistani theorist and politician and a UNDP consultant, mentioned and indexed the concept of human security.

Following these developments, considerable literature has emerged on human security and a variety of approaches have been proposed, which will be discussed in more detail in the conceptual transformation section. The process of conceptualizing and reinforcing the discourse of human security was the result of changes in international relations and system. The main goal of this conceptualization in the form of a new security paradigm was presenting an analytical and policy-making framework that challenges and replaces the principles, assumptions, and recommendations of the traditional state-centered paradigm. Therefore, the concept of human security, in the sense of “freedom from fear” and “freedom from want” as defined in the 1994 UNDP report, emphasizes and focuses on human security and civilian threats to ensure its survival and well-being. This concept is ontologically distinct from the concept of

traditional security, which emphasizes government as the goal of security and military threats.

The present study aimed to evaluate the conceptual evolution of human security and its challenges. Using descriptive and analytical methods, the current research aimed to realize human security and provide a plausible explanation of its conceptual and functional challenges. As such, in addition to discovering and depicting the nature and status of human security, it was attempted to explain the causes and reasons for these evolutions. In this context, we need a strong argumentative base to explain and justify the reasons that have been provided by searching the most important international documents related to human security. Extensive efforts were dedicated to explaining the most important challenges of human security by relying on the same resources.

2. The Evolution of the Concept of Human Security before and after the End of Cold War

In general, understanding the concept of human security requires the recognition of the historical process of evolution of this concept in two periods, including the Cold War (before 1990) and globalization (after 1990). The classic definition of security and national security left a little space for emergence of concepts such as human security. However, international evolutions in the 1990s led to the provision of a suitable space for strengthening of human security discourse, which is presented below.

2.1 Evolution of Human Security Concept in the Cold War Era (before 1990)

While several different definitions have been provided for human security, the commonalities between the definitions are considerable. In general, the traditional definitions given before the Cold War focused more on objective security threats such as land mines, small weapons, violence, and conflict. In this framework, little to no attention was paid to issues such poverty and environment. In the old approach to human security, which mostly dates back to the period before the Cold War, the goal of human security was protecting human beings’ lives against

traditional threats in a way that it complied to the long-term excellence and flourishing of mankind (Brown, 1983: 281). Another important issue in the period before the Cold War was higher importance of national security over human security that addressed the basic human needs for life. (Ibid)

In the traditional concept of security and human security, most attention is paid to the use of military forces and threat-centeredness (Romm, 1993: 122). Meanwhile, in today's critical and holistic security studies, social groups can be threatened by both military instruments and environmental and economic factors that can threaten the security of a country themselves. During the Cold War, the majority of theorists and schools attempting to define this concept believed that security is weak in a conceptual sense and vague in the sense of meaning but powerful in terms of political issues. Therefore, national security was the basis of all efforts in the Cold War era, and this situation would be established when there is security in human, political, economic, social, military, and environmental aspects (Ullman, 1983: 123). Some of the most important elements existing in human security concept before the Cold War include:

Protection

Defined as safeguarding, guaranteeing, and protecting, this element refers to maintaining and protecting something. Accordingly, human beings face significant risks and threats and must be protected against them. Risks can be natural causes such as floods, earthquakes, and storms, and might be out of political and economic control such as poverty, chronic deprivation, terrorist attacks, wars, and conflicts. In addition, they can be controlled but be out of one's will such as lack of drinking water, lack of sanitation and clean water, AIDS, and infectious diseases (Brower & Chalk, 2003: 2-6). Therefore, human security involves preventive and flexible measures in a structured and institutionalized manner, not passive action and in the form of following the occurrence of accidents in a defensive and temporary manner.

Life

This element refers to the limitation of human security area and does not include all essential and

profound aspects of human life. Accordingly, liberation of the repressive structures of power at different levels is a necessity for human security, and the mentioned concept is strongly related to democracy in all its dimensions (Thomas, 2000: 11-18).

All Human Beings

Human security focuses on individuals, people, and other characteristics within the framework of national security. In fact, the center of attention of human security is different from the goal followed up by states in the 19th and 20th centuries, which involved the protection of their territory. Therefore, it is normal to mainly focus on the development of human rights in the international arena. In this respect, human development considered in human security area regards human beings as the end and not a means of economic productivity (Ibid: 62-67).

Common and Important Threats

In traditional view of security, threats are defined based on their relationship with the core of human survival and activities, and their commonness means that risk and threat are at the macro level and threat can be repeated multiple times and is not a random, abnormal accident. While risks might occur suddenly and fast, these characteristics are not related to the importance of threats, and the depth and volume of a phenomenon are the main indicators of level of risk. Based on their mechanism of action, threats are often divided into two direct and indirect categories (Liotta et Al, 2008: 40). Threats such as war and massacre are direct, whereas threats such as excessive investment in military affairs (or other specific issues) and lack of investment required in other sections (e.g., education and health) are indirect.

Human flourishing and perfection in long term

Human security does not just observe the current status and does not just involve protection and support of the current level of security. In fact, human security deals with compatibility, protection, and support of human rights for the long term. In this area, processes such as governance, participation, transparency, capacity building, and institutionalization are of paramount importance.

Nevertheless, attention to future does not mean forgetting the present since the priority of human security is supporting and protecting human beings in the world of science and not in thoughts and intentions.

2.2 The Evolution of the Concept of Human Security in the Age of Globalization (after 1990)

Expenditure on military security worldwide is as much as 49% of the world's total income. Accordingly, a large part of scientific activities in the world are dedicated to presenting and implementing foreign policy analysis. Unfortunately, the number of direct or indirect casualties of military conflicts increased every year at least until the early 1980s despite the relative increase of security in single countries and gradual decline of military conflicts, which shows more threats to human security (UNDP, 1994: Figure 3.1, p48).

After this period, researchers and policymakers realized that the successful guarantee of territorial security does not guarantee human security. This reality has been confirmed by examples of North Korea and Rwanda. In agreement with Robert McNamara (1968), analysts have marked that threats such as environmental destruction (Brown, 1977) and natural disasters (e.g., communicable diseases, floods, earthquakes, and famine) endanger human security as much as man-made military threats (Ullman, 1993). Phenomena such as the collapse of the Soviet Union, reduced military threat of major powers, and relative establishment of peace in the world have raised widespread discussions about the concept of security, providing areas to expand new meanings of human security (Jessica Mathews, 1989).

Therefore, in the period before the Cold War, the concept of human security would be mainly comprehended in dealing with the concept of national security and its military concept. Accordingly, the lack of military conflicts and tensions in a region would be interpreted as peace in the area. This traditional view to human security concept continued until the development of the human security doctrine by the UNDP, which was provided simultaneously with the provision of the good governance doctrine by the world bank in

1989 (Claude, 2001: 353). The globalization growth led to the realization that human beings must be prioritized over governments in security research, and civilian threats must be considered in addition to military threats (Palme Commission on Peace and Disarmament).

In general, human security in the period of globalization has experienced the following developments:

Conceptual Development of Human Security in International Organizations and Governments

A human security development pioneer, UNDP, provides a very simple definition of human security: “freedom from fear” and “freedom from want” (National Research Council, 2010: 389). The following reports of the UNDP were made in an attempt to present specific criteria and a clear meaning of the term. While criticizing the use of the term exclusively in military affairs in the past, we refer to seven components that are derived from the term. These components include economic security (freedom from poverty), food security (food availability), health security (access to health care and patient support), environmental security (protection against pollutions), personal security (physical protection against torture, war, and criminal attacks), community security (maintenance of traditional cultures), and political security (political freedoms) (Human Development Report, 1993, 1994, 1999). These brief definitions became the basis for research and indexing of many researchers including the activities of Mahbub ul Haq, which were important developments in human security (Chen, 1995). Shortly after these developments, the concept of human security quickly became the focus of foreign and even national policy debates. In June 1999, the G8 foreign ministers said that they are determined to fight the underlying multiple threats to human security (Loyd, 1999). In its 2003 report, the United Nations Commission on Human Security also endorsed the definition of human security as the genuine and fundamental protection of all human beings in a way that leads to the full achievement of human freedoms.

The Emergence of New Approaches to Human Security

With the development of human security issues, new theories and analyses have emerged and, according to experts, the two schools of the United Nations (UNs) and Canada have been formed in the field of human security. The views of the UN in the field of human security were created by professor Mahbub ul Haq. On the other hand, the beliefs of the Canada School were mostly presented by Layd Anworthy, the foreign minister of Canada, and were approved in the middle powers conference along with the Norwegian beliefs. Despite fundamental similarities, the two views have some differences. For instance, they have different interpretations of threats. Their most important comments in response to the fundamental questions of human security studies are:

- Audiences: security is first prioritized for individuals (UNs). However, the national security (Canada) is important as well.
- Values: Security focuses on personal safety and welfare as well as individual freedom (Canada and the UNs).
- Threats: the main emphasis is on indirect violence, especially economic and environmental factors (UNs). In addition, the direct violence is emphasized at two national/social and international/global levels (Canada).
- Measures: it is intended to strengthen and advance human development by providing essential necessities in addition to equality, sustainability, democratization, and greater participation at all levels of the world community (UNDP) and to promote political development by means of global norms and institutions, plus the use of a combination of force and sanctions are used when necessary (Canada) (Aldire. P. 36).

Security-Development Connection.

The idea of human security has connected two areas of development and security. Human security link to human development is specifically considered in military security and foreign policy, as well as economic and political resources. The success of efforts to ban landmines in war has reinforced

international efforts to provide human security (not territorial security) by reducing war casualties (www.icbl.org, Retrieved December 5, 2019).

Human Security-Foreign Policy Connection

Canada, Norway, and Japan have taken the lead in their official foreign policy more than others by taking into account human security indicators. The politicians and decision-makers of other countries have carried out similar acts. These efforts have been associated with unclear visions and contradictory definitions. For instance, Canada defined human security as “safety of people against violent and non-violent threats,” a more sophisticated definition of the UNDP. Australia, Chile, Ireland, Jordan, the Netherlands, Slovenia, Switzerland, Thailand, and Norway have also followed the same limited agenda for human security. The political authorities of Japan have defined their foreign policy based on the fundamental role of human security (Obuchi, 1999). However, their definition of human security is more comprehensive than the Canadian definition. In fact, the ministry of foreign affairs of Japan defines human security as being far from all threats that endanger human survival, daily life, and personality (www.un.org, Retrieved August 7, 2019). These threats include environmental degradation, human rights violations, organized international crime, drug trafficking, displacement, poverty, landmines, and AIDS. Moreover, a sustained and serious effort to combat these threats is part of the human security process (Ministry of Foreign Affairs of Japan, 1999). Heads of the G8 countries have also put human security at the forefront of their work. The group's foreign ministers issued a statement in June 1999 that put human security on the agenda of all of these countries (Ibid).

The Human Rights Plan as a Complement to Human Security

Given the different aspects of human security for each person, various rules have been adjusted in the human rights documents to ensure human security based on different financial and spiritual effects. For instance, we refer to the Article 5 in global announcement of human rights, Article 20 in Islamic announcement of human rights (The Cairo Declaration on Human Rights in Islam Annex to Res. No. 49/19-p), Article 7 in International

Covenant on Civil and Political Rights, Article 3 in Convention for Protection of Human Rights and Fundamental Freedoms 1950, 213 UNTS 222 (1950), and specifically, Convention Against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment, 1984.GA Res.39/46 GAOR Supp.NO.51 at 197, UN DOC, A/39/51(1985), all of which have been approved to establish human security. Therefore, numerous provisions have been adopted in support of other aspects of human security at various international, regional, and national levels.

Challenges and Issues of Human Security

Despite the conceptual and political developments of human security, this discourse faces several challenges:

Conceptual Challenge

Increased attention of scientific and political communities to human security not only created confusion in solving some conceptual similarities and conflicts, but also has resulted in the formation of multiple definitions. For instance, one of the important conceptual challenges in the field of human security is its similarity with human rights. In fact, most indexes presented in human security are the same indexes pointed out in human rights. The domain of standards in the area of human security is based on human rights (Ramcharan, 2004: 39-46). However, it should be noted that human security is not the same as human rights since they have separate ideas and functions. Nonetheless, a legal and conceptual relationship can be created and evaluated between human security and human rights. While the core subject of human security comes from human rights, one of the most important differences between the two models is related to their approach to threats that endanger humans' life and dignity (Bolye & Simonsen, 2004: 5). The framework of human rights adopts a legal approach, whereas the framework of human security provides a flexible and specific approach by unifying different aspects of factors, which can be used at various local, national, or international levels (Ibid).

Realization Challenge

Multiple high standards of human security have made it difficult for many developing countries to reach the right level. This has led to the emergence of realization challenge as one of the most serious

challenges on the path of achieving human security. Two categories of strategies have been presented to solve this challenge:

Supportive and Protective Strategies

The main goal of designers and founders of this strategy is dealing with threats and risks. In this context, human security has a protective and supportive form as it is based on the school of thought that people and societies are exposed to risks such as terrorism, lack of investment in health issues, environmental pollution, and nuclear explosions that are out of their control. Human rights and freedoms must first be affirmed and upheld in order to protect human security. In order to reach this point, there needs to be a concentrated effort to create norms and rules, procedures and processes, as well as national and international institutions so that these institutions and rules systematically, comprehensively, and preventively address and eliminate insecurities (Aldire, Op. cit: 11).

Empowerment Strategies

In this context, increasing the ability of human beings to help others or themselves is the key factor for the establishment of human security (Ogata & Cels, 2003: 273-274). Creation of this ability means that human security could be separate from the government security. Empowered people can respond and claim their rights and dignity when their rights and freedoms are violated, or their dignity is impaired. However, support and empowerment strategies are not in conflict and can empower each other. The supported people have more diverse choices, and capable people can avoid threats, convey their voices and desires to the authorities, and use local facilities to provide mutual support. Therefore, human security ensures the training of a capable, informed, and empowered human being.

Dominance of National Security Discourse in the National and International Arena

Despite the considerable growth of human security discourse at the national and international levels in the past three decades, the national security discourse is still the world's foremost discourse. However, the issue is not the level of importance of national security but rather the prevalence of the false assumption that "human security might or can

be in conflict with national security”. Changing the perceptions of the political elites ruling the countries is crucial for solving this problem based on the idea that human security is not in competition or conflict with the national security, but rather completes it. By strengthening human security, the government can further strengthen the foundations of national security. Some of the public sector organizations, such as education or media that are mainly monopolized or under government control, play a considerable role in this regard (Ravaillon, 1997).

The Crisis of the Legitimacy of Human Security Support Missions

Humanitarian interventions are among the most important examples of actions performed in line with human security, where support of people is prioritized over the governance of states. For instance, the representative of Canadian government regarded the NATO military intervention in Kosovo carried out an operation with the intention of providing human security. In addition, this intervention was recognized as an important step taken toward the excellence of human security as a value for global acts. Meanwhile, lack of intervention is the principle in the traditional security paradigm, and humanitarian intervention is illegitimate due to its conflict with governance (Glušac, 2010: 82). This conflict has led to a crisis of legitimacy for UNs’ peacekeeping missions and was even reflected in the report by Kofi Annan, the former secretary-general of the UNs, and in some cases such as Rwanda and Srebrenica (Seppä, 2011: 21). However, the “responsibility to protect” was emphasized in the 2001 report of the International Commission on Governance and Intervention, and international responsibility would replace the non-interference principle if the government was unable to meet this responsibility. Nonetheless, such an interpretation has not been accepted by many countries (ICISS, 2001: xi-xiii).

Globalization, Fluidity, and Transformation

One of the challenges of human security must be recognized as being constantly exposed to fluidity and transformation due to focusing on promoting the quantity and quality of human life and has evolved along with global developments (Ajdari & Asgharpour, 2011: 41). From one hand, security

patterns evolved concomitant with the collapse of the Communist Soviet Union and the end of the Cold War that led to strategic changes in global power equations. This was mainly due to the fact that the former coalitions and alliances designed to prevent threats suddenly lost their function. Therefore, facing the crises and conflicts ahead required a new security geometry on a different nature, especially since technological evolutions and the emergence of political-social processes caused by globalization added to this necessity. On the other hand, the emergence and expansion of new non-governmental actors such as multinational companies and international organizations has contributed to the identification and reinforcement of new parameters in the field of globalization, including immigration, global citizenship, and global cities in the field of international security (Dutt & Mukhopadhyay, 2009). The development of global communications has resulted in the formation of new parameters in affecting the foreign policy decision-makers of governments and other players of the international system, providing a new condition for global transactions. In this context, several foundations of the paradigm that governs international relations, especially state-centeredness, have been challenged. Therefore, a group of people has attempted to take control over events despite the maintaining of legal governance by states. New players will soon be classified in different thematic fields and will be connected to each other and governments.

Transnationalism

As one of the key features of the globalization era, internationalism can be both a challenge and an opportunity. In the challenge dimension, threats to human security take on an international dimension and spread rapidly due to internationalism. An obvious manifestation of such threats is the spread of terrorism from local and national levels to international and global levels (Moore, 2015: 395). In contrast, internationalism can be an opportunity, in ways that it could facilitate countering threats for the international community. Using communication facilities such as the Internet, international units and institutions have provided the opportunity to deal with human security threats on a broader level. Transnationalism has several capacities in the political, economic, and cultural spheres that can play an effective role in promoting human security.

Peacebuilding Problems

The concept of peace in contemporary political literature has gone far beyond its traditional definition. In fact, it is the counterpoint of war (the absence of war) and involves a wide range of unilateral military actions, including genocide and hegemonic tendency of some systems and governments around the world. In this regard, other issues include poverty and hunger, lack of equitable distribution of human life opportunities among nations, illiteracy, and lack of access to the knowledge needed to properly deal with events in social life.

According to the conceptual scope of peace and its deep semantic relevance to human security, the status of peace must be sought at the central axis of the normative system known as international law. This is in preference to looking at peace and human security as a phenomenon between groups and communities.

Meanwhile, there is a lack of understanding of the contexts and factors leading to peace crises, as well as the duties and functions of governments and other actors of the international community. This issue not only makes it impossible to respond to these phenomena in the human collective zone, but also focuses on the "effects" instead of recognizing the "causes". In addition, it leads to lack of understanding of the damage caused by the current and prevailing situation and ultimately results in hiding the efforts and contexts for preventing such crises (Dudouetand Schmelzle, 2010: 53-55).

Poverty Challenge

Similar to many other social phenomena, the concept of poverty and deprivation has time and place validity and is different in each social situation. In fact, poverty is one of the most serious and difficult challenges in the path of human security development. In other words, poverty is a function of the supply and demand equation, and wherever demand for a product exceeds its supply, the value of the product naturally increases (Babones & Vonda, 2009). In this respect, deprivation will be more likely if the balance to obtain that product is lost for any reason. In this case, a small number of people can achieve it and a large number of individuals are deprived of it, which is interpreted as the emergence of poverty. The actions of world economic powers in the form of the world trade organization and the international

monetary fund to deal with this challenge not only have not eliminated poverty, but also have increased international injustice and poverty in other countries, laying the groundwork for the rise of terrorist movements with the outbreak of civil or international wars (Ibid).

Food Security

Food security was introduced for the first time in the international relations literature in the mid-1980s as a response to the global food crisis. Nevertheless, this concept is still one of the serious challenges in the provision of human security (Graham, 2016: 3). Food security focuses primarily on the problems of food supply, food availability, and price at national and international levels (United Nations, 1975). The dimensions, elements, and accuracy of the definitions of food security show that food security seeks human rights realization identified in human rights documents as the "right to food". Food security is the fundamental right of any person, the right to freedom from hunger, and sustainable access to adequate food that is qualitatively and quantitatively meet the nutritional needs of a human being (Maxwell, 1996).

Environmental Security

In recent decades, considerations related to rapid population growth, decrease of environmental resources, and uncontrollable expansion of industrial and mineral pollutions have attracted attention to the field of human security. At the end of the 1980s, environmental debates began to emerge as a security issue and have become a prominent security issue over time (Watts, 2019). During this time, environment was recognized as the central focus of concern and potential cause of political conflicts, and international consequences of environmental erosion and destruction found a special place in the review of the concept of human security. Environmental threats can be divided into two natural and man-made groups (Ibid). However, the issues placed on the agenda of environmental security are related to the second group of threats that are formed in the course of the evolution of the civilization process as a result of human manipulation of nature. In this regard, destruction of the environment is considered to be a security problem since it adversely affects human health and welfare, thereby recognized as direct existential

threats against humans in different dimensions. This issue creates and reinforces a mentality that human health and natural systems are highly interconnected (Dalby, 2002: 133).

Personal Security

The general definition of personal security somehow involves the entire human rights and is interpreted as human security (Dedring, 2008: 605). The specific meaning of personal security also comes from Article 5 of the Covenant on Political Rights, entitled "The Right to Freedom and Personal Security". Evaluation of international documents has revealed that "freedom and personal security" is a concept that embodies the mentioned meaning. Since personal freedom is a prerequisite for the existence of human beings and is the favorable end for human community as an innate right, personal freedom must be respected and not avoided by all people (Ibid). Personal security involves multiple dimensions, presented here before introducing the components of each dimension:

- Equality before the law: this principle does not mean equality of all members of society with respect to the principle of liberty, but rather that the state apparatus and law enforcement agencies should have the same behavior with all people. Therefore, natural inequality between individuals should not result in discriminatory behavior between them.
- Release from torture and other cruel, inhuman, or degrading treatment or punishment: Article 4 (2) of the Convention against Torture has addressed this issue and stated what it meant about the concept. The United Nations Convention in Resolution 3452 (XXX) approved in 1975 considered torture "an intensified and deliberate form of cruel, inhuman, and degrading treatment or punishment."
- Equality and non-discrimination: according to the Human Rights Commission, discrimination is "the exercise of any distinction, exclusion, restriction, or preference on any grounds such as race, color, gender, language, religion, political or other beliefs, national or social origin, property, birth, or other attitudes, and its purpose or effect is to disrupt and destroy the recognition, exploitation

and exercise of all rights and freedoms in equal conditions for all human beings." (Land & Human Rights Standards and Applications, 2015). The principle of non-discrimination is of such fundamental importance that the International Covenant on Civil and Political Rights provides equal opportunities for men and women to enjoy the rights set forth in the Covenant in its Article 3. Therefore, when it allows measures to be taken outside the requirements of the Covenant in exceptional circumstances and under certain circumstances in Article 7 (1), it stipulates that such measures shall not include exclusively racial discrimination based on color, gender, language, and religious and social origin (Human Rights Committee General Comment 18, Para 1 & 6 & 7).

- Personal freedom: the right to personal freedom is a fundamental human right that governments have always used its various forms of deprivation, such as imprisonment, as a deterrent to crime and, as a result, to establish national security. "Freedom" involves a wide conceptual score and encompasses civil and political freedoms as well as economic, social, and cultural freedoms.

Health Security

The concept of "health security" was first introduced by the UNs for the first time in 1994 and its purpose was "to ensure protection from diseases and unhealthy lifestyles" (UNDP, 1994). Following this invention, many references have used this concept to depict health issues that have a major impact on human security. This type of security deals with the insecurities that arise as a result of the spread of contagious and parasitic diseases in vulnerable areas or as a result of the widespread consequences of countries' industrialization. In other words, health security refers to people's freedom from a variety of diseases and their access to health care (Ibid).

3. Conclusion

The emergence of the concept of human security is attributable to the target audience or to the owners of security as human beings for whom security must be provided. In addition to the conceptual transition from state-centered security to human security in two periods before and after the Cold War, the most important indicators of evolution were evaluated in

the present study. The driving force or center of gravity of the evolution of the concept of human security in recent decades relies on the growth of globalization and its key element, transnationalism. Transnationalism, which focuses on the system of communication more broadly than the traditional view of relations between states, extends to interactions beyond diplomatic relations and non-state actors such as individuals with individuals, individuals with organizations, and individuals in the form of political and social organizations and movements. This notion of transnationalism doubles the importance of the issue of human security since many transnational currents and movements are mobilized in relation to human problems and global problems semantically, which are seen as environmental responses to environmental insecurity such as environmental movements, peaceful movements, and anti-war movements. On the other hand, given that most social movements have become transnational in nature as a result of the expansion of transnational communication, they are therefore more likely to transcend national insecurity beyond national borders. This evolution clearly shows the internationality of human security. While this internationality may be a positive feature in the problem-solving process, it may be a threat in the aftermath of the crisis. For instance, the issue of international migration or environmental threats has characteristics such as international expansion that need international efforts to address. These efforts should focus on the most fundamental challenges facing human security such as peacebuilding, poverty, food crisis, environmental threats, and health.

References

- Ajdari, Behrouz & Asgharpour, Seyed Esmaeil (2011) Human security and development, emphasizing on sustainable development, *Procedia - Social and Behavioral Sciences*, Volume 19, 2011, Pages 41-46.
- Aldire, Sabina "Conceptual Framework for Human Security", <http://www.humansecurity-chs.org/activities/outreach/frame.pdf>
- Babones, Salvatore J. and Dorian C. Vonada (2009). "Trade Globalization and National Income Inequality -- Are They Related?" *Journal of Sociology*, V. 45, 1, March.
- Boyle, Kevin and Sigmund Simonsen (2004). Human security, human rights and disarmament, UNIDIR, Available At: www.unidir.org/pdf/articles/pdf-art2139.pdf
- Brower, Jennifer & Chalk, Peter (2003) *The Global Threat of New and Reemerging Infectious Diseases: Reconciling U.S. National Security and Public Health Policy*, RAND Corporation.
- Brown, Harold (1983) *Thinking about national security: defense and foreign policy in a dangerous world*. As quoted in Watson, Cynthia Ann (2008). *U.S. national security: a reference handbook*. Contemporary world issues (2 (revised) ed.). ABC-CLIO. p. 281.
- Brown, Lester, *Redefining National Security: World Watch Institute*, Washington, DC, World –Watch, 1977.
- Chen, (eds)., *Common Security in Asia: New Concepts of Human Security*, Tokyo, Tokai University Press, 1995.
- Claude , Bruderlein, *peoples security as a New Measure of Global stability*, vol.83, NO.842, IRRRC, 2001, P.353, Available at: www.icrc.org.
- Convention Against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment, 1984. GA Res.39/46 GAOR Supp. NO.51 at 197, UN DOC/A/39/51(1985)
- Convention for Protection of Human Rights and Fundamental Freedoms 1950, 213 UNTS 222 (1950).
- Dalby, Simon (2002) *Environmental Security*, The University of Minnesota Press.
- Dedring, Jürgen (2017) *Human Security and the UN Security Council*, in *Hexagon Series on Human and Environmental Security and Peace*, Springer.
- Dudouet, Véronique and Beatrix Schmelzle (2010) *Human Rights and Conflict Transformation: The Challenges of Just Peace*, Berghof Handbook Dialogue Series 9, published by Berghof.
- Dutt, Amitava Krishna and Kajal Mukhopadhyay (2009) "International Institutions, Globalization and the Inequality among Nations," *Progress in Development Studies*, V. 9, 4
- Glušac, Luka, 2010, *Humanitarian interventions in the concept of human security*, *Western Balkans Security Observer*, No 16.
- Graham, Angus (2016) *Human Security & Food Security*, Food and Agriculture Organization of the United Nations. Available at: <https://europa.eu/capacity4dev/sorudev/document/human-security-food-security-2016>
- [http:// www.icbl.org / frames / Main. Html](http://www.icbl.org/frames/Main.html), 10 March 2001. Retrieved December 5, 2019.
- [http:// www.un.org / News / Press / docs / 2000 / 20000110. sc6781. doc.html](http://www.un.org/News/Press/docs/2000/20000110.sc6781.doc.html), 10 March 2001.
- Human Development Report (1993), Available at: <http://hdr.undp.org/en/reports/global/har1993/>
- Human Development report (1994), *New Dimensions of Human security*.
- Human Development Report (1999), Available at: <http://hdr.undp.org/en/reports/global/har1994/>
- Human Rights Committee, General Comment 18, *Non-Discrimination* (Thirty Seven session, 1989).
- Jessica Mathews, Tuchman, "Redefinign Security", *Foreign Affairs*, Vo.68, Spring 1989, pp 162-177.
- Kaldor, Mary (2011) *Human Security, Society and Economy* 33 (2011) 3, pp. 441–448.
- Land & Human Rights Standards and Applications (2015) *United Nations Human Rights Office of the High Commissioner*. Available at:

- https://www.ohchr.org/Documents/Publications/Land_HR-StandardsApplications.pdf
- Loyd, Axworthy, "An Address On Human Security", Minister of Foreign Affairs, to The G – 8 Foreign Ministers' Meeting, 9 June 1999.
- Mandel, Robert (1994) *The Changing Face of National Security: A Conceptual Analysis (Contributions in Military Studies)*, Praeger.
- Maxwell, Simon (1996) "Food Security: A Post Modern Perspective, Food Policy", No. 121.
- McNamara, Robert S, *The Essence of Security: Reflections in Office*, New York, Harper & Row, 1968.
- Ministry of Foreign Affairs of Japan, *Diplomatic Bluebook, Japan's Diplomacy with Leadership Toward a New Century*, Tokyo, Urban Connections Inc., 1999.
- Moore, Cerwyn (2015-05-27). "Foreign Bodies: Transnational Activism, the Insurgency in the North Caucasus and "Beyond"". *Terrorism and Political Violence*. 27 (3): 395–415.
- National Research Council (2010), *America's Climate Choices: Panel on Advancing the Science of Climate Change, "Chapter 16. National and Human Security"*. *Advancing the Science of Climate Change*. Washington, DC: The National Academies Press.
- Obuchi, Keizo, Prime Ministerial Address, "In Quest of Human Security", Japan Institute for International Affairs 40th Anniversary Symposium", United Nations University, Tokyo, 11 December 1999.
- Ogata, S., & Cels, J. (2003). Human Security—Protecting and Empowering the People. *Global Governance*, 9(3), 273-282. Retrieved from www.jstor.org/stable/27800482
- Palme Commission on Peace and Disarmament, "Project on World Security – Series of Papers", <http://www.rbf.org/pws/public.html>.
- Peter H. Liotta, David A. Mouat, W.G. Kepner, Judith Lancaster (2008) *Environmental Change and Human Security: Recognizing and Acting on Hazard Impacts*, Springer Science & Business Media.
- Ramcharan, Bertrand (2004) Human rights and human security, *STRENGTHENING DISARMAMENT AND SECURITY*, Disarmament Forum. Available at: https://www.peacepalacelibrary.nl/ebooks/files/UNIDIR_pdf-art2018.pdf
- Ravaillon, Martin, "Good and Bad Growth: The Human Development Reports," *World Development*, Vo.25, 1997, pp. 631-8.
- Romm, Joseph J. (1993). *Defining national security: the nonmilitary aspects*. Pew Project on America's Task in a Changed World (Pew Project Series). Council on Foreign Relations. p. 122.
- Seppä, Tarja, 2011, Responsibility to Protect – Human Security in Darfur?, in Alm, Oili & Tapio Juntunen, (ed) *Human Security – Perspectives and Practical Examples*, The Civil Society Conflict Prevention Network KATU.
- The Cairo Declaration on Human Rights in Islam Annex to Res. No. 49/19.
- Thomas, Caroline (2000) *Global Governance, Development And Human Security: The Challenge of Poverty and Inequality*, Pluto Press.
- Ullman, Richard.(1983)."Redefining Security", *International Security*, vol.7,No1.(Summer), p 123.
- UN DOC.A/39/51(1985).
- UNDP 1990.
- United Nations (2008), *United Nations Peacekeeping Operations: Principles and Guidelines*, New York: Department of Peacekeeping Operations, Department of Field Support.
- Watts, Jonathan (2019) *Human society under urgent threat from loss of Earth's natural life*, *Guardian* Mon 6 May 2019. Retrieved June 12, 2019. Available at: <https://www.theguardian.com/environment/2019/may/06/human-society-under-urgent-threat-loss-earth-natural-life-un-report>

Role of India's Economic Development in Determining Sex Ratio (at Birth)

Devendra Kumar¹, Mamta Singh^{2*}, Mohammad Sadik³, Khurram Sultan⁴

¹Department of Business Administration, College of Administration and Economics, Lebanese French University, Kurdistan Region, Erbil – F.R. Iraq

²Department of Accounting, College of Administration and Economics, Lebanese French University, Kurdistan Region, Erbil – F.R. Iraq

³President, Lebanese French University, Kurdistan Region, Erbil – F.R. Iraq

⁴Department of Health Administration, College of Administration and Economics, Lebanese French University, Kurdistan Region, Erbil – F.R. Iraq

*Corresponding author's email: mamtasingh609@gmail.com

Received: 13/02/2019

Accepted: 12/05/2020

Available online: 30/06/2020

ABSTRACT

This study attempts to understand whether the phenomenon of high economic growth, which created a favorable effect on sex ratio in China and South Korea, will affect the second most populated country on earth, India, in a similar way and would be able to address the gap in sex ratio, the number of females per 100 males. It uses the nationally representative data of 41,554 observations, which were directly collected from households. The study finds that with a declining fertility, a slightly large proportion of parents ensure to have son in their second off-spring in case if they had daughter as their first child. However, regression analysis suggests negative odds of the preference for male child or probability of giving birth to a son if parents get an option to stay with the daughter in their old age. Therefore, under present circumstances, it is not clear whether high economic growth in India has created favorable changes; nonetheless, there are indications that if the country will create more employment opportunities and ensure property rights for the female population, it will lead to a change in gender-discriminatory behavior.

Keywords: Sex Ratio, Progression Rate, Socioeconomic Development, Census, Family Composition

1. INTRODUCTION

India introduced economic reforms in 1991. In addition to unleashing the potential of the country to achieve high economic growth, these reforms have also led to several social changes.

These changes are multidimensional in nature, for example, altering the traditional caste-based, hierarchical structure to redefine the role of women in society.

However, historically, the country is a patriarchal society in which women face systematic discrimination in their wider spectrum of life. This discrimination is prevalent even before a baby girl registers her presence in the world. The prenatal sex selection, targeting specifically female fetus, is widely prevalent in India (Jha et. al., 2011). The phenomenon to discriminate against the girl fetus using advanced technology (ie, ultrasonography), which started in 1980s, is not limited to South Asia

Access this article online

DOI: 10.25079/ukhjss.v4n1y2020.pp69-81

e-ISSN: 2520-7806

Copyright © 2020 Kumar et al.. Open Access journal with Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (CC BY-NC-ND 4.0).

in countries such as India and Nepal; of note, this practice is rife in East Asian countries such as China, South Korea, and Vietnam; in South Caucasus in countries such as Georgia, Armenia, and Azerbaijan; and in the Western Balkans in Albania, Montenegro, Kosovo, etc. In the past 20 years, the number of countries facing the practices of sex-selective abortion and/or female infanticide grew to 19 (Rahm, 2020).

The wider availability of technology has profoundly affected the way parents realize their desire for a son. Parents can learn in advance the sex of their fetus and may decide to interrupt a pregnancy accordingly. Sex-selective abortions, targeting specifically female fetuses, have ultimately led to long-term demographic imbalances measured through skewed sex ratio at birth (SRB) (UNFPA, 2012).

Nonetheless, the past decades of high economic growth, particularly in Asia, followed by economic development, have led to striking positive social changes. In a study conducted in 2007, Chung et al. explained that the continuous high economic growth in South Korea acted as an impetus to other social advancement and that led to a decline in the SRB from 116 in 1991 to 106 male births per 100 female births in 2009. A similar kind of study conducted in China while controlling the other covariates identified a nonlinear relationship in which SRB initially increases and then decreases according to the socioeconomic status (SES) (Guilmoto and Ren, 2011). Furthermore, in India, the current process of economic development shows signs of change, which could be observed through more employment opportunities for women, their participation in decision making, and the right of inheritance, which in turn have led to the reversal of high sex ratio (Larsen et al., 2013). The government has endeavored to formulate and implement various housing policies and programs at different times. One of these policies was the construction of condominium housing. The effort to build low-cost condominium houses that are affordable for low-income residents through the government's large-scale Integrated Housing Development Program is an experience that deserves close examination. In this regard, while the construction of the condominium houses was at a marginal cost, it seems that many low-

income urban residents cannot afford to own these houses (MoUDHC, 2014). The implication from these statements is that the housing policies have passed through a series of successes and failures. What is least disputable, however, is that there have been slight improvements in almost all the social and physical infrastructure—including the housing sector—of the country. It is necessary to recognize the most important factors behind the poor performance of the housing sector and the determinants of homeownership. Not enough work has been done recently to identify the major determinants of homeownership. The scant literature that is available on the determinants of homeownership in Ethiopia motivated this study. In view of these facts, this study aims to examine the determinants of homeownership among the condominium housing residents of Ambo. It also investigated the overall status of the housing sites in terms of accessibility and availability of the infrastructural services.

2. Rationale of the Study

India has a diverse culture, which is influenced by its population size: it is the second largest country after China in terms of population and seventh largest in terms of its geographical area. Considering the size, India has always been of interest to researchers for examining its social trends. The increasing trend of sex ratio of the country and its contributing factors and long-term effects on the society have been thoroughly examined (Retherford et al., 2003; Bhat et al., 2005; Attané and Guilmoto, 2007; Jha et al., 2011; Guo et al., 2013). Analysis has also been conducted to compare these trends with trends observed in other countries in East Asia and Central Asia (Croll, 2000; Guilmoto, 2009; Rahm, 2020; Tafuro and Guilmoto, 2020). However, there is a dearth of studies that explore the effect of economic development on the sex ratio (Chung et al., 2007; Guilmoto and Ren, 2011).

Although a few studies have been conducted to examine the role of economic development on the sex ratio in India, but their scope is limited to specific geography (Chahnazarian, 1988; Larsen et al., 2013). This study is the first of its kind to use nationally representative data of 41,554 observations directly collected from households to

examine the effect of economic development on the sex ratio. This study tests an association between the variables that characterized and captured the process of economic development and the SRB in 2005. This period is defined as the period when India started reaping the fruits of economic growth. This study may help to broaden the understanding that prohibition of technology was not enough to produce the desired outcome. Therefore, at the policy level, mechanisms should be introduced to transfuse the effect of economic development into social changes.

3. Structure of the Study

After setting the context in the first part of the study, in the second part, the reasons to conduct this study are explained briefly. The third part provides a theoretical background and discusses the previous works. The fourth part discusses a hypothesis and also provides a reason to use SRB as an indicator to measure the practice of prenatal sex selection. In the fifth part, the study describes the data and methodology used. In the sixth part, the study briefly highlights the limitations of the study. In seventh part, results and the discussion about the results are provided. The study then concludes with a discussion of policy implications, followed by appendices.

4. Literature Review

The "logic of industrialism," which was developed by Kerr et al. (1964), explains that advanced industrial societies increasingly become similar in social structure and gradually lose their eccentric characteristics. Although the idea of economic and technological imperatives that flow from advanced levels of industrialization is not new, it was explicitly stated in the earlier work of Marx and Veblen (1914). In the contemporary world, the resemblance can be drawn in South Korea, where the economic progress since 1980s led to social advancement and a decline in sex ratio to 106 males per 100 females in 2009 from the earlier higher level of 116 males (Chung et al., 2007). The same hypothesis of industrial advancement paves a way to lose idiosyncratic characteristics tested in other settings, such as China, showing a trend to follow the similar path where the SRB initially increases and then decreases with the SES of the household

(Guilmoto and Ren, 2011) as the country was able to maintain high income growth that created better economic prospects and fulfilled the labor demand and supply gap by creating equal opportunities for women.

Microeconomic analysis of the SES of the household identifies channels to determine the sex outcome. Initially, the privileged groups had been found to be more likely to have higher proportion of male births, but that was linked to higher fatal mortality (Teitelbaum and Mantel, 1971; Chahnazarian, 1988). However, the recent literature mainly describes three factors: easy access to technology, preference for sons, and low fertility pressure (John et al., 2008; Guilmoto, 2009). Access to technology establishes a positive link, and the education and the income levels are the determining factors for access to technology. Moreover, low fertility may increase the need for sex selection as the possibility of remaining sonless rises among smaller families. Therefore, there may be a possible association between improved individual SES higher SRB levels.

The association between SES and the proportion of male births examined in other Asian countries has also been frequently found to be positive. Unit-level data from China indicate that SES quintile and SRB are positively related. The indicators of high income status are positively related with gender discrimination in India. The descriptive analysis conducted by Siddhanta et al. (2003) using the National Sample Survey found that expenditure level and sex ratio are positively related.

However, previously lower female status in household has been observed to change among the urban middle classes because of better education, more employment opportunities, and a higher degree of autonomy in society. As a result, the existence of biased gender norms and attitudes are anticipated to weaken with social and economic modernization. This trend represents possibly one of the few ways by which higher socioeconomic development and individual SES indicators could distinctly lower birth masculinity (Guilmoto and Ren, 2011).

5. Statement of the Problem

Using the unit-level information, this study tests whether economic development will lead to a change in gender-discriminatory behavior.

Of note, SRB is considered a robust indicator of masculinization of society, and consistent increase in SRB has been measured to identify other disturbances in social structure — specifically marriage squeezes and domestic violence in affected countries (Croll, 2000; Attané and Guilмото, 2007). This study uses SRB to measure gender-discriminatory behavior.

6. Data Information and Methodology

The prominent feature of this study is the uniqueness of the data set. A survey, named as the Indian Human Development Survey (IHDS) was conducted in 2004-05 by the University of Maryland and the National Council of Applied Economic Research. The survey collected the information from approximately 42,000 households distributed across 28 states and seven union territories. The data were collected using a predesigned questionnaire, which included a vast set of questions on income, expenditure, employment, education, and health. To collect the information on income, expenditure, and employment, investigators were trained to fill the questionnaire based on the responses from the head of the household. In more than 95% of cases, the head of the household was a male member of the family, whereas in the case of questions on education and health, investigator had asked questions from the female member of the household, and in most cases, the female member was an ever-married women aged between 15 and 49 years.

The survey is freely available in the public domain and can be accessed from the following website: www.icpsr.umich.edu. The data are recognized by various international agencies, policy makers, and academicians. State-wise sample size distribution is provided in Appendix 1.

7. Limitations of the Study

Because the survey was conducted in 2005, the data do not capture the recent trends; however, it can be

justified that the change in household behavior is not a momentary phenomenon, and it changes in the long term only. Data capture 15 years of economic development, which is a reasonably long period to test the aforementioned hypothesis. Notwithstanding, there is an argument that the data were collected at a point of time, and therefore, data would not be able to identify channels that may be responsible to determine gender-biased behavior of parents. However, to measure that, a longitudinal survey is needed, which future research may consider to explore.

8. Results and Discussion

Sex Ratio at Birth in India

The increase in SRB observed in India is generally linked to a combination of three factors: a continuing desire to have a son, a decline in fertility, and the rapid spread of sex determination technologies (John et al., 2008; Guilмото, 2009). Moreover, several studies that computed SRB reported that SRB started to increase in the late 1980s, reached 107 in 1991, and 108 between 2000 and 2005 (various rounds of the Vital Registration Survey). A high level of SRB (111) was reported in 2006-07 using the District Level Household Survey, and since then, there has been little change in SRB, which was 110 according to the official estimate in 2009-11.

A well-known characteristic of SRB is that it varies among the states and in socioreligious groups and by economic status and parity (Zhen et al., 2013; Hu et al., 2011). The parity effect stems from the fact that gender discrimination is usually negligible for first birth, but increases for later births (Figure 1; To see the birth order and family composition by rural and urban India, refer to Appendix: 2). The 2011 Census data also indicate that there are substantial differences among states: few

states in northern India such as Punjab and Haryana have a very high sex ratio, whereas most states in southern India have a favorable sex ratio, such as Kerala and Tamil Nadu, with their sex ratio being as favorable as that of developed countries. Table 1 shows the

variation from the national average (Census is conducted once in a decade and does not report SRB; therefore, the study reports sex ratio for ages 0 to 6 years to show the pattern.). The 2011 Census data also indicate a decline in the rate of increase in sex ratio in ages 0 to 6 years.

Table 1: Trends in India's 0-6 sex ratios by state, 1981-2011

Regions and states	0-6 sex ratio (male/female)				% change		
	1981	1991	2001	2011	1981-1991	1991-2001	2001-2011
India	1.04	1.06	1.08	1.09	1.73	1.98	1.39
North West							
Haryana	1.11	1.14	1.22	1.21	2.61	7.29	-1.31
Himanchal Pradesh	1.03	1.05	1.12	1.10	2.14	6.08	-1.08
Punjab	1.10	1.14	1.25	1.18	3.81	9.62	-5.67
*Chandigarh Union Territory	1.10	1.11	1.18	1.15	0.82	6.38	-2.54
*Delhi Union Territory	1.08	1.09	1.15	1.15	1.20	5.40	0.09
Jammu and Kashmir	1.04	n.a.	1.06	1.06	n.a.	n.a.	9.50
West							
Rajasthan	1.05	1.09	1.10	1.13	4.20	0.73	3.00
Gujarat	1.06	1.08	1.13	1.13	2.08	5.10	-0.35
Maharashtra	1.05	1.06	1.10	1.13	1.05	3.60	3.47
Goa	1.04	1.04	1.07	1.09	0.10	2.80	1.97
North Central							
Uttarakhand	-	1.05	1.10	1.13	-	4.46	2.54
Uttar Pradesh	1.07	1.08	1.09	1.11	0.84	1.20	1.83
Madhya Pradesh	1.02	1.06	1.07	1.10	3.81	0.94	2.14
Regions with child sex ratio similar to (or moderately above) the United Nations average of 1.05 for 2010							
East							
Bihar	1.02	1.05	1.06	1.07	1.24	0.94	1.24
Jharkhand	-	1.02	1.04	1.06	1.47	2.32	1.47
Chhattisgarh	-	1.02	1.03	1.04	0.98	1.07	0.98
Orissa	1.01	1.03	1.05	1.07	1.45	2.10	1.45
West Bengal	1.02	1.03	1.04	1.05	0.77	1.06	0.77
South							
Kerala	1.03	1.04	1.04	1.04	-0.19	0.00	-0.19
Karnataka	1.03	1.04	1.06	1.06	1.44	0.28	1.44
Tamil Nadu	1.03	1.06	1.06	1.06	0.66	-0.47	0.66
Andhra Pradesh	1.01	1.03	1.04	1.06	1.46	1.83	1.46
North East							
Assam	n.a.	1.03	1.04	1.05	0.97	0.87	0.97
Arunachal Pradesh	1.00	1.02	1.04	1.04	1.87	0.48	1.87
Meghalaya	1.01	1.01	1.03	1.03	1.38	0.29	1.38

Manipur	1.01	1.03	1.05	1.07	1.75	2.49	1.75
Nagaland	1.01	1.01	1.04	1.06	2.98	2.12	2.98
Sikkim	1.02	1.04	1.04	1.06	0.19	2.02	0.19
Tripura	1.03	1.03	1.04	1.05	0.10	1.35	0.10
Mizoram	1.01	1.03	1.04	1.03	0.48	-0.77	0.48

Bold and italic show a lower rate of increase during 2001-2011 than 1991-2001. The negative sign shows a decrease. The United Nations 2010 estimate shows that the average child sex ratio was 1.05 for less developed regions (excluding China)

*Delhi and Chandigarh are metropolitan cities that constitute separate administrative units (union territories). Because they are the only cities for which data are available, they are shown here. **The 2011 data for Jammu and Kashmir are very dubious, as acknowledged by the Census report, and discussed in the text. It has been a difficult state to hold a Census, given its political situation.

Source: Adapted from a study, "Missing Girls" in China and India: trends and policy impacts, 2013

Birth Order and the Family Composition

The SRB by birth order and its gender composition usually display a clear picture that sheds light on the prevalence of gender-biased behavior and the existence of effective prenatal sex selection practices. Birth order reflects the family's preference, which in turn determines the family composition. The first birth often shows a somewhat regular proportion of boys and girls, whereas SRB among higher-order births tends to be skewed. It results from the behavior of parents to correct their family composition in view of the children already born.

A precise measurement of family formation processes is based on the calculation of the parity progression ratio (PPR), which is the probability that parents with a given number of children will bear an additional child. The PPR can be computed from the birth distribution among women with completed fertility. Therefore, for this analysis, data for women who have completed the age of 39 years was used; however, there was a small proportion of women who reported pregnancy after that age.

First, the overall PPR for all births was 98.5% for the first birth, meaning that 98.5% of all women gave birth to at least one child. Another 1.5% women did not give birth because of several other medical and social reasons. The all-India figure was compared with that of Punjab and Haryana, which

is 99.1%. In case of Punjab and Haryana, SRB is persistently reported to be higher than that of the other states. The PPR was again high for the second birth (91%), but it decreased to 61% and 35%, for the third and fourth order of birth, respectively. Punjab and Haryana combined have a higher proportion than the national average in the second and third birth order, whereas the fourth order is below than the national average. These numbers can be similarly read as the proportion of women with two or three children already have gone for an additional third (or fourth) birth. They represent the overall fertility levels among Indian women of the older generations, for whom this calculation is possible. Analysis has also been conducted for rural and urban India separately (Appendix 1). Expectedly, the PPR is lower in urban India than in rural India. For the third birth, it reached 52.1%, and for the fourth birth, it declined to 26.7% in urban India.

To understand the sex preference further, this study, which classified women into women without son(s) and women with son(s), yields ratios that now depend on the attained gender composition of the family. Here, it can be seen that women without sons tend to have an additional birth more often than other women (93.2% compared with 91.6% who had a son in first birth). However, there is another explanation also that a single child is uncommon, and approximately 91% of women plan for a second child regardless of the gender of the

first one. The difference in PPR is most apparent in case of third birth. Only 60.2% women with two sons in the first and second birth planned for the third birth, whereas this proportion is 22.4% higher in case of women with two consecutive girls in first and second birth who then planned for third birth.

To understand the dynamics of whether there is any sex selection in the second and third birth order, classification was made among the women who had a son or daughter in first birth and had planned for second birth, and other factors were analyzed such as (1) in the second birth what proportion of women had given birth to a son or daughter if they already had a son in the first birth, and (2) what proportion had given birth to a son or daughter if they had a daughter in the first birth. It could be assumed that the proportion of women who had a son in first birth generally would not have a strong desire for getting another son in second birth. Therefore, this proportion could be considered as standard to compare with the other proportions. Evidence says that generally more boys are born than girls in any setting all across the world (105 boys per 100 girls). The lower ration is considered as a sampling error and the higher than the standard ratio is considered by demographers as sex selection. Women who had a son in the first birth and had again given birth to a son in the second birth have a proportion of 51.4%, whereas up to 53.2% of women had a daughter in the first birth. This ratio is alarmingly high in Punjab and Haryana, that is, 52.4%, and 59.0%, respectively. In India, parents use the sex selection technology to determine the preferable

composition of the family. Because this technology is easily accessible in urban areas, this ratio is 54.1%, which is higher than the ratio of 52.8% in rural areas.

This tendency is strident and more pronounced among women who had daughters in their first and second birth: ratio increased to 55% in India overall, and 64.2% in Punjab and Haryana. The chances of sex selection are high in this cohort. It is also evident that the proportion is highest for those women who plan a third pregnancy if they had a daughter as their first and second child (82.6%), whereas this ratio is 60.2%, 64.1%, and 63%, respectively, for those women who gave birth to a boy in previous two pregnancies, first boy and second girl, and first girl and second boy, respectively. Of note, this ratio is the highest in Punjab and Haryana, with 91.9% of women who gave birth to daughters in the previous two pregnancies planning for third pregnancy.

There has been a decline in the fertility rate, and in light of wide accessibility of technology, it has become easier for parents to decide the preferable size of the family. This sex selection is more prevalent in specific settings, such as Punjab and Haryana. However, these data are slightly outdated to enable selection of the women who have completed their fertility and therefore do not capture the recent trends. Moreover, simple proportion is unable to determine the behavior of household toward sex. Thus, to capture this phenomenon, regression analysis was conducted.

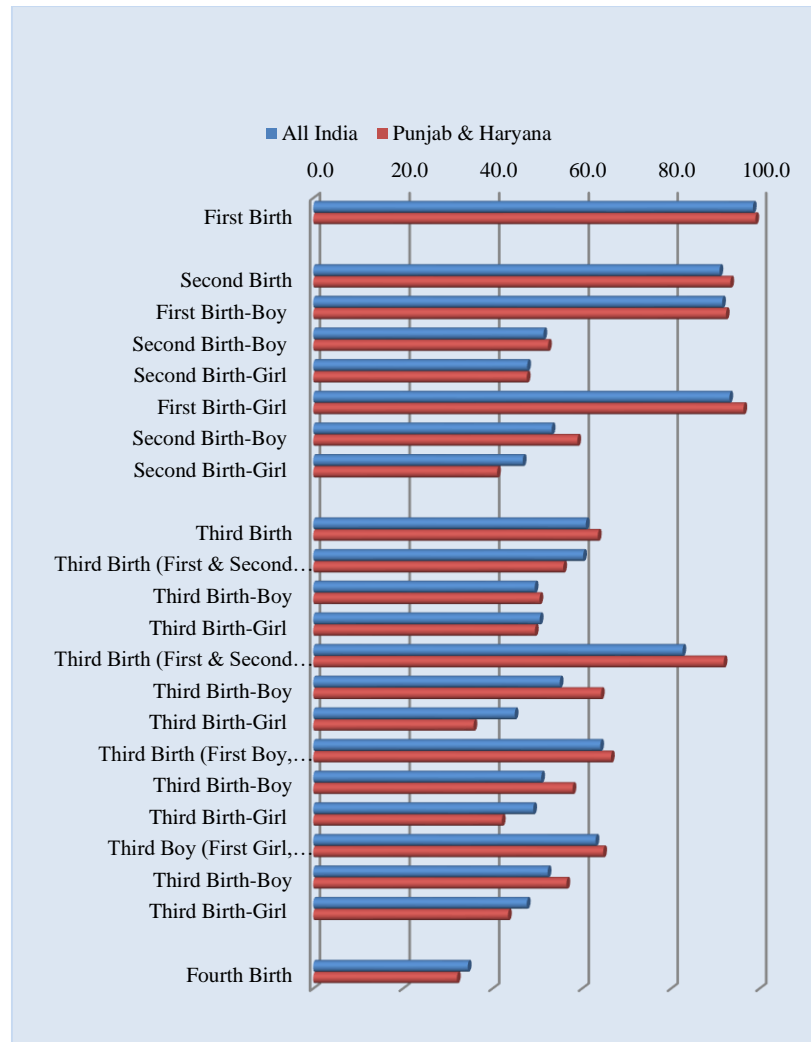


Figure 1. Birth order and family composition, 2004-05

Source: Prepared by the authors using the IHDS Survey, 2005

Variables Identification and Determinants of Sex Ratio at Birth

The objective of analyzing SRB is to capture a trend of recent socioeconomic development. The number of male and female infants who are younger than 1 year was identified using the individual file in which the information of approximately 2 million individual members was given. Together, 3084 male and female members were identified to be younger than 1 year. Indicators related with other characteristics of the household were shortlisted using the household and women questionnaires. In case of the household questionnaire, the information on income, expenditure, occupation,

asset holding social network, and media exposure was collected from the head of the household, who was a male member in most households. However, information related to health, education, fertility history, and customs was collected from the eligible women of the household, who were aged between 15 and 49 years. In case of almost all the households, household and women information was collected from the same household.

Variables were identified by reviewing data from the recent literature on gender. SRB was selected as a prime variable, and regression analysis was used to estimate the probability of male birth. A similar

kind of analysis was conducted previously by Bhat et al. (2005). The drawback of this method is that the probability of male birth is only marginally affected by socioeconomic causes. The main factor in the determination of sex of an individual birth remains chiefly random, and the contribution of sex selection practices to the overall variance of birth masculinity is modest because most parents do not practice sex selection. However, the prime objective to use this technique was to identify covariates in the form of socioeconomic characteristics of the society, which are of significance for the SRB.

After selecting the variables for household characteristics, such as economic status and ethnicity, other variables were selected that represent societal change and create more opportunity for women to participate in decision making (for detailed descriptions of variables and the corresponding observations, refer to Appendix 3). The selected variables for analysis in the recent literature are viewed as the indicators that will capture the societal change (Larsen et al., 2013). Any positive sign may influence to change the sex-biased behavior in the long run.

A study conducted in China by Guilmoto and Ren (2011) reported that because of decadal economic development, SRB in China has shown a modest sign to change the gender-biased behavior. To measure this relationship, they used SRB and SES of the household. After four decades of sex selection and the positive relationship with income status, the study reported a favorable and significant change. The study identified that higher income status negatively affects the probability of giving birth to a son. The magnitude of the coefficient gets enlarged as a household moves from lower to upper SES compared with the middle SES. The level of significance also increases with the improved income status. However, on the contrary an analysis which has been explored by the authors using the National Family Health Survey (NFHS)-III for the 2005-06 reported the reverse trend in case of India. Though, despite the coherent findings, this study did not find any significant relationship. Moreover, to further examine and to understand whether the trend of economic development could undermine the cultural barrier, a direct question was asked to household that, "in last 10 years, do you see any

change in the economic condition of your house?" and three options were given: worse, same, and better. Considering worse as a category to be excluded, the study found a positive relationship with the SRB, although the results were not significant. Therefore, it can be concluded that in India despite a positive relationship between income status and SRB, income status does not influence the sex ratio.

There are studies that have reported sex ratio is higher among specific ethnic groups such as high-caste Hindus, Sikhs, and Jains, whereas Muslims and Other Minorities have a normal sex ratio. This study included socioreligious variables in the model and found that compared with other backward class Hindus, a positive relationship exists between SRB and high-caste Hindu, the relationship has also been found positive between SRB and Scheduled Castes-Hindu and Scheduled Tribes-Hindu, but the relationship is not significant. Although a negative relationship was found between SRB and being Muslims and Other Minorities, but again, the relationship is not significant. Of note, a positive relationship was found between SRB and being Sikhs and Jains, at a small significant level. Thus, with the exception of the Sikhs and Jains, socioreligious group variable does not significantly influence the sex ratio (refer to Table 2).

Conventionally in Indian cultural, there are set of norms, defining that women will perform household chores, and men will participate in labor market and will be breadwinners. Owing to this perception, women participation in labor force was meagerly low. However, the past decade of economic development has generated opportunities for women to participate in labor market and challenged the existing cultural norms. Increased participation by women in labor market in urban settings in particular has encouraged several other women to participate. These changes are visible in the form of increased proportion of women in tertiary and secondary education. The participation of women in the labor force encourages other women to join the labor market, thereby helping change the perception about the patriarchal structure of society. A question was asked to ascertain if any female member in the household or family was a doctor, principal, teacher, or an officer and above. This variable did not indicate

significance, but this could probably be due to the possibility of small proportion in the sample.

A nonlinear relationship exists between women and media exposure. No significance was noted in SRB for women who watch television daily compared with those who do not watch television at all. Daily exposure with media affects the awareness level, which has a negative influence on the odds of preference for a male child and giving birth to a boy. However, no exposure with media indicates a possible economic deprivation of the household, because in this era of globalization, if they do not have a television or are not exposed to other forms of media, how will they be aware of sex determination techniques? Therefore, women's media exposure shows a significant negative correlation with the SRB.

Furthermore, the following factors were found not to have a significant influence on SRB: whether women choose their husband on their own or get married to someone chosen by their parents, the practice of using a veil in front of elders in the household or family, and ownership of assets.

On the question to probe women's independence in the household, questions had been asked about her visit to market/restaurant with husband, and her visit to neighborhood without seeking a permission from the elders. Having visit the market with husband and without seeking permission from the elders to visit neighborhood found having negatively related with the odd of having a male birth, and also without seeking a permission from the elders to visit neighborhood is found to have significant influence.

Other than the cultural norms, the presence of a son in the household is considered as a security to parents in their old age. Parents usually stay with the son, and staying with the daughter is not socially acceptable in Indian society. For parents, even drinking water at the daughter's place after marriage is considered as a violation of social norms. However, during the analysis, the model incorporated a variable about old age stay. There were four options: son only, daughter only, son and daughter both, and nobody. In case of nobody there could be a possibility of having no children, therefore this category was not the part of our analysis. A very high proportion of couples considered son as the only option (64.2%). However, considering daughter only, and considering 'daughter and son both', has been found having a negative affect on the odd of giving birth to a male kid. An option to stay with the daughter or 'son and daughter both' has also been found highly significant with the scope of having type-I error 1% only. It can be concluded that a very slight change in this norm may change the tenuous affection for having a son in Indian society (Larsen et al., 2013).

The past decade of economic growth has brought other changes in Indian society too, especially in urban areas; for example, crime against women has increased exponentially. A variable 'incidence of women harassment' included in the analysis. Though the variable does not show a significant sign with the odd of giving birth to a male kid, but certainly it has showed the 'incidence of women harrassment' is positively related with odd of giving birth to a male kid.

Table 2: Determinates of sex ratio at birth (correlates of birth masculinity)

Number of observations						3084
LR chi2(25)						213.4
Prob > chi2						0.000
Pseudo R2						0.050
Sex ratio at birth: 0 female, 1 male (dependent variable)	Coef.	Std. Err.	z	P>z	95% CI, lower limit	95% CI, upper limit
Independent variables						
Income level; Q1 (excluded category)						
Q2	0.06	0.09	0.650	.514	-0.117	0.233
Q3	0.08	0.11	0.730	.466	-0.134	0.293

Socioreligious group; Hindus/Other Backward Classes (excluded category)						
High-caste Hindus	0.08	0.11	0.700	.483	-0.137	0.289
Hindu/Scheduled Castes	0.13	0.11	1.260	.208	-0.075	0.342
Hindu/Scheduled Tribes	0.16	0.15	1.090	.274	-0.129	0.456
Muslims	-0.04	0.12	-0.360	.716	-0.277	0.190
Sikhs and Jains	0.42*	0.25	1.700	.090	-0.065	0.906
Other Minorities	-0.14	0.28	-0.510	.610	-0.695	0.408
Household economic condition; worse (excluded category)						
Same	0.16	0.12	1.320	.188	-0.077	0.394
Better	0.15	0.12	1.240	.214	-0.088	0.391
Social network; no (excluded category)						
Yes	0.27	0.29	0.940	.349	-0.297	0.840
Women media exposure; sometimes (excluded category)						
Never	-0.23*	0.10	-2.270	.023	-0.427	-0.031
Regularly	-0.17*	0.10	-1.680	.093	-0.367	0.028
Parents and other relatives with respondent view (excluded category)						
Parents and other relatives: without respondent view	0.01	0.09	0.070	.946	-0.163	0.175
Respondent herself	0.16	0.20	0.800	.426	-0.227	0.538
Veiling face; yes (excluded category)						
No	0.03	0.09	0.350	.728	-0.141	0.203
No such practice	0.78	0.41	1.900	.058	-0.025	1.586
Outing with husband; no (excluded category)						
Yes	-0.06	0.08	-0.800	.423	-0.222	0.093
Permission to village neighborhood; yes (excluded category)						
No	-0.20*	0.11	-1.890	.058	-0.409	0.007
Ownership or rental papers; no (excluded category)						
Yes	0.05	0.13	0.400	.690	-0.202	0.305
Do not have papers	-0.03	0.19	-0.150	.878	-0.396	0.338
Old age stay; son (excluded category)						
Daughter	-2.72***	0.40	-6.760	.000	-3.506	-1.931
Son and daughter both	-0.96***	0.09	-10.840	.000	-1.132	-0.785
None/other	-1.07**	0.36	-3.020	.003	-1.771	-0.378
Women harassment; no (excluded category)						
Yes	0.14	0.12	1.240	.214	-0.083	0.369

Source: Prepared by the authors

9. Conclusion

On the basis of these findings, the study concludes that the stable and high economic growth that was found to be an impetus to positive change in the sex ratio in China and South Korea has not created similar effects in India, initially in half decade of moderately high economic growth in the 21st century. In the existing patriarchal structure in India, the necessary presence of a son in the household is not only linked with economic

security; it is indeed a culture norm. Therefore, despite the rapid decline in fertility, a slightly large proportion of households maintain the perfect composition of the family, wherein the household ensures the birth of a son in the second birth order if the household had a daughter in the first birth order. This affection for the son is notably prominent in certain parts of India, Punjab and Haryana, and in socioreligious groups, Sikhs and Jains. Being from the Sikh and Jain socioreligious

group had a significantly positive influence on SRB.

Nonetheless, the study reveals a positive sign that an option to stay with the daughter at old age changes the perception of necessarily having a son. The variable has a significantly negative relationship with the odd of giving birth to a son. This can be implicitly associated with the economic independence of women, and the opportunities for women to participate in labor market. Hence, the steady high economic growth in the long term may lead to favorable sex ratio in India as has been observed in case of China and South Korea.

REFERENCES

- Attané, I. and C.Z. Guilmoto (2007) Watering the Neighbour's Garden: The Growing Demographic Female Deficit in Asia. Paris, *Committee for International Cooperation in National Research in Demography*. http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf.
- Bhat, P. N. Mari, A. J. and Francis Xavier (2005) Factors Influencing the Use of Prenatal Diagnostic Techniques and Sex Ratio at Birth in India. *CEPED-CICRED-INED Seminar on Female Deficit in Asia: Trends and Perspectives, Singapore*, 5-7 December 2005.
- Croll, Elisabeth (2000) Endangered daughters: Discrimination and development in Asia. *New York: Routledge*. [http://www.urbanlab.org/articles/China/gender%20\(Chinese%20and%20English\)/Chinese%20\(Indian\)%20Gender%20family%20marriage%20etc/Endangered%20Daughters%20Discrimination%20and%20Development%20in%20Asia.pdf](http://www.urbanlab.org/articles/China/gender%20(Chinese%20and%20English)/Chinese%20(Indian)%20Gender%20family%20marriage%20etc/Endangered%20Daughters%20Discrimination%20and%20Development%20in%20Asia.pdf)
- Chung, Woojin and Monica Das Gupta (2007) The decline of son preference in South Korea: The roles of development and public policy. *Population and Development Review* 33(4): 757–783.
- Chahnazarian A (1988) Determinants of the sex ratio at birth: review of recent literature. *Social Biology* 35(3-4): 214–35.
- Guilmoto, C Z (2009) The sex ratio transition in Asia. *Population and Development Review*, 35 (3), 519–49.
- Guilmoto, G Z, and Qiang Ren (2011) Socioeconomic differentials in birth masculinity in China. *Development and Change*, 42 (5), 1269–1296
- Hu, Luoia and Analía Schlosser (2011) Prenatal Sex Selection and Girls' Well-Being? Evidence from India. *WP 2010-11 Federal Reserve Bank of Chicago*. <https://ideas.repec.org/p/fip/fedhwp/wp-2010-11.html>
- John, Mary, Ravinder Kaur, Rajni Palriwala, Saraswati Raju and Alpana Sagar (2008) Planning families, planning gender: the adverse child sex ratio in selected districts of madhya pradesh, rajasthan, himachal pradesh, haryana and punjab. *Bangalore: Books for Change*.
- Kerr, Clark, J. Dunlop, E. Harbison, and C. Myers 1964 *Industrialism and industrial man*. *New York, Oxford University Press*.
- Larsen, Mattis, and Ravinder Kaur (2013) Signs of Change? Sex Ratio Imbalance and Shifting Social Practices in Northern India. *Economic and Political Weekly* Vol (XLVIII) 35, 45–52.
- P. Jha, M.A. Kesler, R. Kumar, F. Ram, U. Ram, L. Aleksandrowicz, et al., Trends in selective abortions of girls in India: analysis of nationally representative birth histories from 1990 to 2005 and census data from 1991 to 2011, *Lancet* 377 (9781) (2011) 1921–1928.
- Rahm, L. (2020). Gender-Biased Sex Selection in South Korea, India and Vietnam. *Gender-Biased Sex Selection in South Korea, India and Vietnam*. *Springer International Publishing*. <https://doi.org/10.1007/978-3-030-20234-7>
- Retherford, Robert D and T. K. Roy (2003) Factors Affecting Sex-Selective Abortion in India and 17 Major States. *National Family Health Survey Subject Reports No. 21 Mumbai: International Institute for Population Sciences*.
- Siddhanta, S., D. Nandy, and S.B. Agnihotri (2003) Sex ratios and prosperity effect: what do NSSO data reveal? *Economic and Political Weekly* 38(41) 4381— 4404.
- Tafuro, S., & Guilmoto, C. Z. (2020). Skewed sex ratios at birth: A review of global trends. *Early Human Development*, 141(xxxx). <https://doi.org/10.1016/j.earhumdev.2019.104868>
- Teitelbaum, MS. and N. Mantel (1971) Socio-economic factors and the sex ratio at birth. *Journal of Biosocial Science* 3: 23–41.
- UNFPA, (2012). Sex Imbalances at Birth: Trends, Consequences and Policy Implications. *UN Population Fund Asia Pacific Regional Office*.
- Veblen, Thorsten (1914) The instinct of workmanship and the state of industrial arts. *New York, Macmillan*.
- Zhen, Guo, Monica Das Gupta, and Li Shuzhuo (2013) "Missing Girls" in China and India: trends and policy impacts. *Working Paper: PWP-MPRC-2013-001, Maryland Population Research Center*.

Table AI.1 Statewise Distribution of IHDS Sample

	District in 2001 Census	Included in IHDS				Households Surveyed			Individuals Surveyed		
		Districts	Urban Areas	Blocks	Villages	Rural	Urban	Total	Rural	Urban	Total
Jammu and Kashmir	14	5	5	21	20	400	315	715	2,528	1,702	4,230
Himachal Pradesh	12	9	7	21	52	1,057	315	1,372	5,663	1,503	7,166
Punjab	17	13	11	36	61	1,033	560	1,593	6,202	2,831	9,033
Chandigarh	1	1	1	6	0	0	90	90	0	383	383
Uttaranchal	13	6	3	9	20	309	149	458	1,757	736	2,493
Haryana	19	14	6	18	79	1,350	268	1,618	8,112	1,291	9,403
Delhi	9	10	7	56	6	60	900	960	329	4,291	4,620
Rajasthan	32	23	17	60	88	1,590	895	2,485	9,663	4,805	14,468
Uttar Pradesh	70	43	24	75	138	2,389	1,123	3,512	14,966	6,499	21,465
Bihar	37	17	10	31	61	965	465	1,430	5,950	2,856	8,806
Sikkim	4	1	1	3	3	60	45	105	293	212	505
Arunachal Pradesh	13	1	1	3	6	120	45	165	623	209	832
Nagaland	8	4	1	2	5	100	30	130	480	84	564
Manipur	9	3	1	3	3	60	45	105	359	239	598
Mizoram	8	1	1	3	3	60	45	105	263	239	502
Tripura	4	2	1	3	7	184	45	229	818	190	1,008
Meghalaya	7	3	1	3	6	116	45	161	505	250	755
Assam	23	8	7	21	38	699	318	1,017	3,286	1,404	4,690
West Bengal	18	14	21	75	66	1,247	1,133	2,380	6,170	4,788	10,958
Jharkhand	18	6	9	27	26	519	405	924	2,913	2,095	5,008
Orissa	30	26	13	40	84	1,464	600	2,064	7,710	2,886	10,596
Chhattisgarh	16	15	6	18	49	905	270	1,175	4,833	1,377	6,210
Madhya Pradesh	45	31	13	42	121	2,177	628	2,805	12,392	3,409	15,801
Gujarat	25	17	14	60	70	1,167	911	2,078	5,926	4,234	10,160
Diu and Daman	2	2	0	0	3	60	0	60	281	0	281
Dadra and Nagar Haveli	1	1	0	0	3	60	0	60	315	0	315
Maharashtra	35	27	18	75	115	2,078	1,125	3,203	10,881	5,721	16,602
Andhra Pradesh	23	19	18	60	94	1,526	909	2,435	6,669	3,992	10,661
Karnataka	27	26	21	78	144	2,832	1,189	4,021	14,184	5,675	19,859
Goa	2	2	1	3	6	100	65	165	475	307	782
Lakshadweep	1	0	0	0	0	0	0	0	0	0	0
Kerala	14	12	14	42	61	1,089	642	1,731	4,892	3,089	7,981
Tamil Nadu	30	21	22	74	62	898	1,200	2,098	3,691	4,855	8,546
Pondicherry	4	1	1	3	3	60	45	105	245	228	473
Andaman and Nicobar	2	0	0	0	0	0	0	0	0	0	0
Total	593	384	276	971	1503	26,734	14,820	41,554	1,43,374	72,380	2,15,754

Source: Adapted from the report Human Development in India: Challenges for a Society in Transition