



## Investigating the Effect of Dynamics Employment and Institutional Factors with a Focus on Economic Freedom and Ease Doing of Business on GDP per Capita in Iran

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ARTICLE INFO	ABSTRACT
<p><i>Received: 07 October 2021</i></p> <p><i>Reviewed: 18 October 2021</i></p> <p><i>Revised: 06 November 2021</i></p> <p><i>Accept: 20 November 2021</i></p>	<p><b>Purpose:</b> Since employment and growth is an important and key issue in the economy, having an efficient environment is very important for proper growth. Therefore, in order to improve the current situation and achieve proper development, it is necessary to study the effect of Dynamics Employment and institutional factors in order to identify the effective channels to improve the current situation, effective factors and appropriate growth.</p> <p><b>Methodology:</b> Therefore, the main purpose of this study is to investigate the effect of Dynamics Employment on GDP per capita in Iran during the period 2004-2021 using the generalized time series torque method.</p> <p><b>Findings:</b> The results show that Dynamics Employment have a significant effect on Iran's per capita GDP; Thus, the dependency rate of the elderly, the dependency rate of children and the negative impact and the participation rate, labor productivity rate, employment rate have a positive impact on GDP per capita. The results also show that institutional factors have a significant impact on GDP per capita growth and improving the indicators of economic freedom and ease of doing business, which are the most important institutional factors, accelerate growth and development.</p> <p><b>Originality/Value:</b> This paper investigated the effect of Dynamics Employment and institutional factors with a focus on economic freedom and Ease Doing of Business on GDP per capita in Iran.</p>
<p><b>Keywords:</b> <i>Dynamics Employment, Institutional Factors, GDP, Economic Freedom, Age Structure, Ease Doing of Business.</i></p>	

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## 1. Introduction

The great differences between different countries in per capita income and economic prosperity and their different paths in economic growth and development are among the important issues that have always been the concern of economic thinkers and researchers. Economic growth means an increase in a country's production in a given year compared to its value in the base year. But it is desirable for growth to pay the most attention to the population structure and economic conditions of the country and to cause comprehensive development. Economic growth must be such that it causes the least waste of resources and the most employment. For this purpose, the conditions and abilities of the workforce should be considered [1]. On the other hand, with the failure of development policies proposed by international institutions and the inability of economic theories to explain the differences between countries, the theory of institutional and political growth (in the framework of the new institutionalist economic approach Has been raised) is one of the attitudes that seek to explain these differences based on the institutional structures of countries. New institutionalist economics incorporates institutional factors into economic analysis of growth, and factors such as the political system, the behavior of rulers, public policy, culture, and religion that were assumed in other patterns of growth are important factors in differentiating economic performance [2]. Countries introduced; because institutions are considered as shaping the economic environment in countries and the main cause of backwardness of some countries is not the lack of capital but the lack of a suitable institutional environment for productive economic activities [3].

In this regard, in recent years, the Iranian economy has witnessed a situation in which along with increasing economic growth, the unemployment rate has also increased or reduced production growth has not been accompanied by an increase in unemployment. In fact, this situation reflects the unemployment-free growth that has taken place in the country. Therefore, discussing the capabilities and productivity of the workforce, demographic structure, and characteristics of the workforce is essential to solving the problem of lack of growth, employment, and poverty reduction. In the meantime, it is necessary to study the effect of Dynamics Employment in order to have growth along with job creation by identifying the effective factors. Dynamics Employment are defined by four interrelated factors, which are age structure, participation rate, employment rate, and labor productivity [4].

Given the importance of this issue in providing an analytical framework to address the problem of underdevelopment of countries and the policy implications of this issue for policymakers in a country, as well as the importance of employment and comprehensive growth, study and research the impact of institutions and Dynamics Employment Economic growth is very important. In this regard, the present study investigates the effect of Dynamics Employment and institutional factors on GDP per capita in Iran using the Generalized Momentum Moment Analysis (GMM) method during the period 1994 to 2021 [5, 6].

In research on economic growth and development, no specific study has been conducted to examine the combined effect of Dynamics Employment and institutional factors on economic growth. There are also very limited studies on Dynamics Employment in Iran; Therefore, studying the effect of these two factors together is essential; On the other hand, comprehensive factors affecting economic growth (Dynamics Employment) and factors affecting the context of economic activities (institutional factors) are examined. The present study, by examining the context of economic growth

and all-round factors affecting growth, goes one step further than other studies and provides a more comprehensive and effective view of the issue.

## **2. Literature Review**

In studying the dynamics of employment, an attempt is made to study both the factors that affect the demand for labor and the factors that affect the supply of labor. Factors such as age structure and dependency or dependency burden, which are related to labor supply, and factors such as employment rate and labor productivity, which are related to labor demand; will be examined together. Dynamics Employment seeks to achieve efficient employment and inclusive development by comprehensively examining the use of labor and the characteristics of the labor force and minimize the loss of human resources of the society and also bring welfare to the population of the country. Brought [7].

The effect of changes in age structure can be divided into two groups: demographic effect. The first group has an immediate and direct effect that is the result of increasing the share of people of working age in the total population. If a larger share of the population is employed, it means that the economy has proportionally enabled more people to produce in the more productive stages of life, and the average standard of living will be higher. The potential benefits of poverty reduction are twofold. First, in low-income households that reduce their fertility, living standards increase as the number of effective producers per household member increases. Second, the improvement in public finances due to the increase in the number of workers in the economy will lead to more resources being allocated to low-income families [8]. The result of the second effect occurs when the rapid growth of the working population leads to greater savings in the short term and higher investment in human capital and investment per worker in the long run. The first demographic effect may last for decades but is ultimately unstable. As the fertility rate decreases, child dependency ratios within families and within a population decrease, while the share of the population at working age increases and remains high for several generations. If the growing population is used effectively, there is potential for raising living standards at the economic level. The first divisive effect is a major part of the output of a growing workforce that supports fewer children. For some countries, estimates show that the effect of the first division is between 9.2 and 15.5% of their economic growth during the period 1960 to 2000 [9].

The second population-splitting effect occurs when changes in the age structure of the space create space for further savings and lead to increased investment in human and physical capital. Increasing the share of workers in the economy with respect to the total population leads to more production and more resources in the economy, which can also facilitate increased savings, investment and the accumulation of physical and human capital. Consequently, these decisions affect labor productivity. Funding for a growing workforce is costly, and as labor force growth slows, a certain level of investment will lead to more capital for each worker. Demographic change leads countries to raise more capital and also increases labor productivity [10].

In the first stage of population transfer, the increase in the number of children is proportionally greater than the population of working age or the elderly, which leads to a decrease in the share of the working age population, which is due to the increase in the share of children. As incomes and education improve, mortality rates decline, leading to an increase in the share of the working age

population, which reduces overall dependency. This is the population transition phase that provides the conditions for the first population-splitting effect. The third stage of population transfer occurs when the fertility rate is very low (usually below the replacement level) and the mortality rate is low, leading to high life expectancy. At this stage, the elderly population grows faster than the decline in the share of children, which leads to an increase in the overall dependency ratio, which is driven by a larger number of older people. Therefore, having a proper support burden, high active population and proper and appropriate use of available human capital, can bring high economic growth for the country [7].

After the inability of economic growth theories to explain the low and unstable economic growth of poor countries and the spread of inequality worldwide, a fourth wave of growth theory in economics was formed, which became known as institutional models and political economy of growth. According to institutional economists [11], the differences between countries in human capital, physical capital and technology (which are emphasized in the first three approaches of growth theories) are direct and superficial factors that determine economic growth and development. And institutions are a profound or fundamental factor determining the growth and development of societies. Accordingly, it is only by recognizing these fundamental factors that a framework for policy recommendations can be designed that goes beyond recommendations and guidelines such as the proposal to improve technology in a country that Through it, the risk of potentially unintended negative consequences of these policies can be minimized.

Institutions by protecting property rights, guaranteeing the execution of contracts, promoting entrepreneurial incentives, maintaining macroeconomic stability, managing the risk and risk-taking of financial intermediaries, reducing uncertainty and reducing transaction costs, providing social security networks and upgrading The accountability and criticism of the rulers provide a set of political, cultural, and economic conditions and contexts within which individuals in society acquire and accumulate skills and economic enterprises accumulate capital and produce products. According to the new institutionalist view, the type of governance, regulations and institutions of a country are among the primary and main factors determining the motivations and desires of individuals to invest physically and acquire skills and technology in that society, all of which lead to economic success in More production, higher incomes, and better economic well-being in the long run [11].

Stiglitz [12] believes that constructive government-market interaction can be the key to the success of the economic reform process. Accordingly, the government and the market are two complementary institutions, not two competing institutions. In fact, the government, as a social institution-builder, should create efficient institutions, a suitable environment for regulating the economic relations of the people of the society in a low-cost, simple and time-wasting way, and through this as an aid. Provide the market giver for economic growth and development. The Economic Freedom Index and the Business Ease Index are among the most important indicators by which the effect of institutional factors can be examined.

## **2.1. Economic Freedom**

The Heritage Foundation considers economic freedom to be a measure by which individuals are free to produce, distribute and consume goods and services. According to the designers of the Heritage Foundation's Economic Freedom Index, since freedom is defined as "the absence of obligation, pressure or constraint on the choice of action" and economics related to the production, distribution

and consumption of goods and services, the economy is therefore free. It was interpreted as "lack of imposition or restriction on production, distribution and consumption of goods and services" [13].

In general, what can be deduced from the above definitions is that economic freedom is nothing more than an emphasis on individual or private property and defines the limits to which the economy operates on a market basis. In the meantime, one of the plans of the government is to protect the property of individuals. Therefore, in any economy, the minimum intervention is defined for governments according to their economic conditions, and if states act beyond this limit, economic freedom will be limited.

The pathways through which economic freedom affects growth are as follows [14]:

- 1- Reducing the size of government: One of the effects of economic freedom is the shrinking volume of government. Since government production is inefficient in many cases, with the introduction of the private sector and cost reductions, as well as the improvement of the quality of private sector goods and services relative to the public sector, the volume of government is unnecessarily reduced. The shrinking of the state reduces the huge distribution and allocation costs that the government incurs, and the reduction of government expenditures leads to a reduction in the budget deficit and inflation. Economic freedom and the reduction of the power of government intervention in the economy in another way increase economic stability, because the existence of the government as a competitor for the private sector creates the risk that the inability of the state to compete with the private sector will cause the state. Weakens or eliminates the private sector and confiscates its property. Economic instability, by increasing investment risk, reduces the supply of capital and restricts domestic and foreign investment, and causes capital flight from the country. Conversely, economic stability increases domestic and foreign investment by increasing security, and investment provides the necessary funds for economic growth.
- 2- Encouragement to pursue personal interests: Because individuals pursue their own interests (for example, a producer seeks to maximize profits) and the free market system leaves people free to freely pursue the best path to self-interest. They choose to be deprived of their rights according to the principle of property rights. Therefore, people will have enough motivation to pursue their goals in the market system and it is expected that a quality product will be offered in the shortest time.
- 3- Efficient transfer of information: One of the important features in the free market system is the use of the price system and one of the important features of this system is fast, timely and efficient transfer of information.
- 4- Creating Transparency and Reducing Corruption: Corruption occurs when public power is illegally abused for private gain. The loophole they create is being narrowed, and in this way, economic freedom is reducing corruption.

## **2.2. Ease Doing of Business**

All factors affecting the business of enterprises that are beyond the control and domination of enterprises are referred to as the business environment [13].

The business environment consists of ten indicators, each of which represents a part of the activities of companies and the challenges they face. Firms in business environment face two types of costs: one is production costs and the other is environmental costs. The existence of an unfavorable business environment increases the environmental costs of the firm [15]. Environmental costs such as problems of the judicial system, bribery, etc. Environmental costs vary from country to country,

according to World Bank studies. The existence of such costs and their differences in different countries causes losses to firms; because the competitiveness of a firm that incurs higher costs is reduced and has adverse effects on the production and growth of the country.

On the other hand, if the business situation in the country is unfavorable, the possibility of financial contributions will decrease and the conditions for the growth of the informal economy will increase, and with the expansion of the informal sector, the production capacity of companies operating in this sector will increase. They will gradually decrease and will eventually cause great damage to the growth and development of the country. This is because when the business regulations of the firms are costly and troublesome, the firms tend to operate in the informal sector, and since it is not possible to make large investments and expand the firms' activity in the informal sector, the scale of this firm remain small and do not reach economies of scale, resulting in lower economic growth and employment [14].

Existence of strict rules and regulations, prolongation of the process of starting companies, lack of transparency in laws and regulations and the weakness of the judicial system can be considered as other factors affecting the unfavorable business conditions in companies. Given the importance of the business environment and the extent of its dimensions in all economic sectors, a firm determination is needed to improve the business environment in countries.

The World Bank has outlined steps and components in summarizing business activities (manufacturing or services), including:

- Starting a Business: The Methods, Time, Cost, and Minimum Capital Paid to Start a Limited Liability Company
- Obtaining construction permits: methods, time and cost for performing all warehouse construction procedures and quality and safety control
- Electricity supply: methods, time and cost of connection to the electricity network and reliability of power supply and transparency of tariffs
- Property registration: methods, time and cost of property transfer and quality of land management system
- Obtaining credit: transferable collateral rules and credit information systems
- Support for minority investors: Minority shareholder rights in transactions involving affiliates and corporate governance
- Payment of taxes: Payments, time, total tax and the amount of participation in accordance with all tax regulations as well as the processes of completing tax files
- Cross-border trade: time and cost of exporting the product with comparative advantage and importing auto parts
- Execution of contracts: time and cost to resolve a commercial dispute and the quality of the judicial process
- Bankruptcy Settlement: Time, Cost, Outcome, and Rate of Recovery for a Commercial Bankruptcy and the Power of the Legal Framework for Bankruptcy

Based on the above, less time and cost of starting a business, less time and cost of issuing construction permits, sustainable supply and supply of electricity, rapid registration of land and real estate ownership, rapid granting of credit to production or service activities, capital protection Retailers, transparency in tax payments, consideration of the comparative advantage in foreign trade, low time and cost of resolving contracts, and rapid settlement of bankruptcy all lead to disruption of

production. A quick look at these components shows that barriers to doing business through administrative processes can be removed quickly [16].

In an article examining the fundamental factors influencing economic growth, Rodrik [17] examine the role of institutions, geographical location, and trade (integration into the global economy). Their research shows that institutional quality has the greatest impact on economic growth among these three factors. Pradhan [18] in a study entitled " Good governance and human development: evidence form Indian states" examined the effect of good governance on human development in India over the last two decades using panel data method. In this study, the Combined Good Governance Index has been used as an explanatory variable. The results of this study show that good governance and human development of previous periods determine the current human development in India. This means that good governance can be considered as a policy variable to improve human development and economic growth in countries. Khare and Slany [4] in an article examine the dynamics of employment from the perspective of the population window and changes in population structure during the period 1998-2009 for Nepal. By descriptive analysis of the characteristics of the population structure and labor force (productivity, participation rate) and the employment and unemployment rate, inclusive development as well as the macroeconomic structure; It has been concluded that by increasing productivity for both the workforce and the economic sectors, and by increasing equal employment opportunities and planning to employ a large number of active workers who will enter the workplace in the future. We were able to witness the accelerating growth of Nepal's economy. Bredemeier et al. [19] in a paper examined the heterogeneity in job dynamics in response to the shock of government spending for the United States during the period 1985-2015. Using the VAR method, they provide evidence that job-specific changes in labor demand are to understand these findings and create a business cycle model that highlights the heterogeneous dynamics of job employment as a result of differences in short-term alternatives between work and Explains capital services across jobs.

Cruz and Ahmed [7] examined demographic change for 180 countries for the period 1950-1999 using the GMM method and fixed and dynamic effects, and the results indicate a one percent increase in the share of the working age population. It is accompanied by a 1.6 percent increase in GDP growth per capita. Also, lowering Cdr and increasing labor productivity will increase economic growth. Olaniyi and Oladehi [20] in a study using the instantaneous dynamic panel method, investigated the moderating effect of institutional quality on financial integration and growth in the West African region. Findings show that linear financial development has a separate positive effect on growth, while the interaction between financial development and institutional quality has a negative effect on growth. This means that institutional quality is a barrier to diminishing the benefits of financial growth in West Africa.

Mahmood et al [21] examined the relationship between energy intensity, economic freedom and carbon emissions. This study selected forty-one Asia-Pacific economies representing all World Bank-classified income groups. In the presence of income, economic freedom plays a dual role for the environment and energy: the direct impact and the impact of the moderating factor. The findings show that although there is no two-way causality between all variables, long-term estimates of economic freedom are positive for the economy and the environment. The results indicate fundamental structural reforms with favorable economic and regulatory environment for Asia-Pacific countries. Empirical analysis also shows that GDP growth rates for Asia-Pacific countries are increasingly dependent on economic freedom and energy intensity.

The present article is different from the mentioned articles and other researches in this field both in terms of the type of indicators used and the sample under study. The most important innovation of the present study is that both the comprehensive factors affecting economic growth are examined and the necessary context for economic activities to have appropriate economic growth. In the following, we will review the model and method of data analysis.

### 3. Model, research method, indicators

#### 3.1. Research model and indicators used

Selecting appropriate institutional indicators to examine the impact of institutions is one of the important issues. In recent years, there has been significant growth in the quantitative indicators of institutions. The proliferation of indicators and empirical research has created important debates about the role of measuring institutions and governance. This is reflected in detail in Aron [22].

Among the important institutional indicators are the Economic Freedom Index of the Heritage Foundation, the Economic Freedom Index of the Fraser Foundation, the indicators of good governance of the World Bank, the indicators of business ease, the political data, and the index of civil liberties. Freedom House and International Risk Guidance Index (ICRG) noted. In this study, to examine the effect of institutional factors, the Heritage Foundation's indicators of economic freedom and the Business Ease Index, which are among the good indicators of institutionalism, are used.

To examine the relationship between Dynamics Employment and per capita GDP, following the studies of [16, 18, 20], who also modeled the employment rate; the model studied in this study is explained as follows.

$$\ln GDPprt_t = \alpha + \beta_1 \ln ACT_t + \beta_2 \ln ADR_t + \beta_3 \ln CDR_t + \beta_4 \ln Emp_t + \beta_5 \ln life_t + \beta_6 \ln mean\ school_t + \varepsilon \quad (1)$$

$\ln GDPprt_t$ : GDP growth rate per capita

$\ln ACT_t$ : Labor force participation rate

$\ln ADR_t$ : Adult Dependence Growth Rate

$\ln CDR_t$ : The growth rate of child dependence

$\ln Emp_t$ : Employment growth rate

$\ln life_t$ : Life expectancy at birth

$\ln mean\ school_t$ : Average years of study

We have selected the GDP growth rate per capita as an indicator to show economic growth. Also, the growth rate of adult dependence and the growth rate of child dependence are indicators for showing the age structure; Life expectancy at birth and average years of study have been selected as indicators to show labor productivity.

Indicators of economic freedom and ease of doing business are also used to bring the impact of institutional factors into the model. From these indicators, the growth rate is taken and then economic freedom in the form of  $\ln GEF$  and  $\ln GDB$  enters the model.



Inflation growth is also used as a control variable to moderate the effects of price changes and make the effects of variables more realistic.

The final model is defined as follows:

$$\begin{aligned} \ln GDPprt_t = & \alpha + \beta_1 \ln ACT_t + \beta_2 \ln ADR_t + \beta_3 \ln CDR_t + \beta_4 \ln Emp_t \\ & + \beta_5 \ln life_t + \beta_6 \ln mean\ school_t + \ln GEF_t + \ln GDB_t + \varepsilon \end{aligned} \quad (2)$$

### 3.2. Research Methods

Due to the use of explanatory variables of employment rate (Ln Emp) and indicators of economic freedom and business ease, which is an endogenous variable, as well as the presence of intermittent dependent variable (Ln GDPper) in the model, the GMM method is the best way to control Endogenous is used in the dynamic model.

In this method, there is no need to be clear except for the disturbance, and only the existence of torque conditions is sufficient to estimate the model. The existence of simple assumptions is one of the capabilities of this method.

In the torque method, the parameters are estimated as follows:

Suppose  $\Theta$  contains k unknown parameter, the general form of the expression indicates the expression for the community torque in terms. If k torques are selected, the parameters  $\Theta$  can be solved publicly from this k expression, now we replace the sample torque with the community torque, the advantage of this method is that it is based on torques that are often simple to calculate, but should be noted The estimates obtained depend on the selected torques. Now by replacing the unknown torques of the community with the corresponding sample torques are estimated. The main assumption in the GMM method is that the sum of the torque conditions can be formulated. Assume that the parameter vector  $\Theta$  contains the unknown parameter p and that the data generation process (DGP) has parameters  $\Theta_0$ . In addition, we assume that M provides separate torque conditions for each observation of the data generation process. that's mean:

$$E[g_i(\theta_0)] = 0 \quad (3)$$

$g_i$  are known functions that:

$$g_i: R^p \rightarrow R^m \quad (4)$$

$p$  is the number of unknown parameters,  $m$  is the number of torque conditions. Now these functions depend on the data observed. This means that the very important assumption is that DGP provides the limit  $m$  in the above model for all observations. If the number of torques ( $m$ ) is equal to the unknown parameters ( $p$ ) in, then the above mole is accurately detected; if it is larger, it is over-detected.

GMM estimator  $\hat{\Theta}$  as  $m$  is the answer  $m$  of the equation obtained by substituting the mean of community E in the above model with the mean of the sample.

$$\frac{1}{n} \sum_{i=1}^n g_i(\hat{\theta}) = 0 \quad (5)$$

Set (explanatory variable) violates the assumption that the regressors are unrelated to the disorder, and the ordinary least squares (OLS) estimation should not be used in this case. One of the suitable

econometric methods to solve or reduce the problem of endogenousness of indicators and correlations between explanatory variables is model estimation using generalized moments. Casley et al. First used the generalized torque method in 1996 to estimate economic growth models.

In fact, this method provides a consistent and biased estimation model by selecting a variable called a variable from the data set. In the first-order differential method, it uses all available interrupts as a tool variable.

If the general form of a time series pattern is considered as follows:

$$Y_t = \alpha Y_{t-1} + \beta X_t + u_t \quad (6)$$

In the above equation,  $X_t$  is the vector of independent variables and  $Y_t$  is the vector of dependent variables and  $u_t$  is the error.

If the explanatory variable in the regression model is correlated with the exception of random perturbation, then estimators such as OLS will be biased. One of the available solutions to the problem is to use tool variables. This means that a variable can be found for the variable  $Y_{t-1}$  that is not correlated with  $u_t$  despite strong correlation with the variable. Such a substitution is called a tool variable.

Therefore, the differential equation of Arlano and Bond is as follows:

$$(Y_t - Y_{t-1}) = \alpha(Y_{t-1} - Y_{t-2}) + \beta(X_t - X_{t-1}) + (\varepsilon_t - \varepsilon_{t-1}) \quad (7)$$

To ensure the appropriateness of using this method and the consistency of this estimator, which derives its validity from its instrumental variables; the following test is proposed:

- *Sargent test*: This test is used for the accuracy and validity of instrumental variables and is from a predetermined range and is used for any correlation between tools and errors. For tools to be valid, there must be no correlation between tools and error statements. The null hypothesis for this test is that the instruments are valid insofar as they are not correlated with the errors in the first-order differential equation. Failure to reject the null hypothesis can provide evidence that the tools are appropriate.

For the validity of instrumental variables, one should pay attention to the J-Statistic statistic and examine this statistic, so that this statistic in the equation estimated at the desired confidence level is less than  $X_{k-1}^2$  in the table. In this test, if the null hypothesis is not rejected, then the tool variables defined in the model are valid and the model does not need to define new tool variables. However, if the null hypothesis is rejected, the defined instrument variables are insufficient and inappropriate and it is necessary to define more appropriate instrumental variables for the model [23].

## 4. Model Estimation and Data Analysis

In order to investigate the effect of Dynamics Employment on economic growth in Iran during the period 1994-2021, the generalized time series torque method is used and the model is estimated using Eviews 9 and Excel software.

Since the data used are of the time series type variables, it is necessary to check the significance of the variables used so that the model estimation does not face the problem of false regression and the

model is estimated correctly; For this purpose, first the significance of the model variables is examined and then the results of model estimation are reported. Unit root tests are used to evaluate the significance of time series. In this study, the generalized Dickey-Fuller test (ADF) was used.

**Table 1. ADF test results**

Time series	ADF	Critical values			prob	Intercept	Trend	Stationary
		One percent	Five percent	Ten percent				
Ln gdp	-2.96	-2.65	-1.95	-1.60	0.00	-	-	I(0)
Ln cdr	-5.48	-4.32	-3.58	-3.22	0.00	+	+	I(0)
Ln adr	-4.02	-4.34	-3.60	-3.23	0.02	+	+	I(0)
Ln emp	-5.01	-4.33	-3.58	-3.22	0.00	+	+	I(0)
Ln life	-3.94	-4.34	-3.58	-3.22	0.02	+	+	I(0)
Ln act	-3.26	-4.44	-3.63	-3.25	0.09	+	+	I(0)
Ln ec	-7.01	-4.34	-3.58	-3.22	0.00	+	+	I(0)
Ln uey	-3.73	-4.44	-3.63	-3.25	0.04	+	+	I(0)
Ln wap	-2.53	-2.74	-1.96	-1.60	0.01	-	-	I(0)
Ln h	-5.42	-4.34	-3.58	-3.22	0.00	+	+	I(0)
Ln me	-3.15	-3.67	-2.96	-2.62	0.03	+	-	I(0)
Ln GEF	-3.05	-3.71	-2.98	-2.62	0.04	+	-	I(0)
LnGDB	-3.26	-4.44	-3.63	-3.25	0.09	+	-	I(0)

According to the table above, all static time series are of degree I (0) and the estimated regression is not false and the results are reliable.

#### 4.1. Estimation results

The proposed research model was estimated and analyzed using GMM method and time series data. The estimation results are given in Figure (1).

Dependent Variable: LNGDPPER  
Method: Generalized Method of Moments  
Date: 12/04/21 Time: 09:36  
Sample (adjusted): 1382 1400  
Included observations: 19 after adjustments  
Linear estimation & iterate weights  
Estimation weighting matrix: HAC (Bartlett kernel, Newey-West fixed bandwidth = 3.0000)  
Standard errors & covariance computed using estimation weighting matrix  
Convergence not achieved after 500 weight iterations  
Instrument specification: LNEC LNUEY LNWAP LNGDPPER(-1)  
LNGDPPER(-2) LNGDPPER(-3) LNCADR LNH LNME(-1) GEF(-3)  
LNGEMP(-1) LNH(-1) GDB(-3) LNCADR(-2) LNADR(-1) GDB(-2) GEF(-2) IGIR  
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.34640	0.247321	-49.92044	0.0000
LNCADR	-1.869108	0.017493	-106.8477	0.0000
LNADR	-0.801504	0.024151	-33.18741	0.0000
LNGEMP	1.373553	0.044678	30.74312	0.0000
LNLIFE	2.820076	0.081386	34.65079	0.0000
LNGDPPER(-1)	0.539682	0.004433	121.7408	0.0000
LNACT(-1)	1.685112	0.027093	62.19731	0.0000
GEF	-0.000627	8.95E-05	-7.002678	0.0001
GDB	0.010734	0.000170	63.27068	0.0000
GEF(-1)	-0.001343	0.000100	-13.42190	0.0000
R-squared	0.946462	Mean dependent var	8.520605	
Adjusted R-squared	0.892923	S.D. dependent var	0.322211	
S.E. of regression	0.105435	Sum squared resid	0.100050	
Durbin-Watson stat	1.839296	J-statistic	5.182856	
Instrument rank	19	Prob(J-statistic)	0.818086	

Fig. 1. Significance at the 5% level; Software used: Eviews9

#### 4.2. Analysis of findings

According to Figure (1), all explanatory variables are significant. Also, according to the adjusted coefficient of regression, 94% of the time was able to explain the changes of the dependent variable. Explanatory variables of growth, growth of life expectancy, growth of labor force participation, economic growth of the previous year and growth of business ease index have a positive and significant impact on the growth of GDP per capita. Explanatory variables of adult dependency growth, child dependency rate and employment rate growth have a negative impact on GDP growth per capita. Also, intensive care for the elderly will increase, and since the cost of caring for the elderly is covered by the working age population, it will reduce income and savings in households and reduce working hours. People of working age have a negative impact on per capita income. Regarding the signs of estimated coefficients, it should be noted that many studies have expressed both dependence rates with a negative effect. In general, increasing the dependency rate means that the working age population decreases relatively and leads to a decrease in labor supply. Growth in the employment rate (Ln Gemp) has a positive effect on GDP per capita. The employment rate, as

an endogenous variable, reflects all the factors and conditions affecting the employment of the labor force (including the factors related to the supply side of the labor force and the factors related to the demand side of the labor force); The positive impact of this variable indicates that working conditions are such that employment growth is booming.

Explanatory variable of growth of business ease growth index has a positive effect on GDP per capita and states that if the context of economic activities improves, it will lead to growth in production and bring development to the country. It should be noted that the coefficient of this index is low in Iran and indicates that institutional factors in the country are weak and do not perform well and a quality platform for economic activity is not provided. According to statistics released by the World Bank for Iran, and analytical studies, the improvement and growth of this factor has been able to stimulate economic growth, but in a weak way; this weakness can also be interpreted in the low level of this index. Also, the negative impact of the growth of economic freedom index can be considered in the closed and repressed economy of the country, which hinders economic growth.

## **5. Summary and Conclusion**

Since economic growth and employment is an important and key issue in the economy and Iran is not in a good position in terms of employment and we are witnessing underemployment and poverty and employment in sectors unrelated to the capabilities of the workforce. On the other hand, no economy can grow and develop properly without proper institutional factors and context; therefore, there is a need for institutional reform in various sectors, and it is basically impossible for any kind of reform to be successful without institutional reform. The present study raises the question of why some countries have developed and grown significantly and others have not yet achieved proper development despite following the existing solutions; He started studying. Considering the factors that have a comprehensive impact on economic growth and production (supply and demand side) as well as the institutional factors that are the basis of activity; Modeled and statistically analyzed time series using GMM method.

The results show that the dependency rates of the elderly and children, which is an indicator of the age structure of the population, have a negative effect on the country's production. This is because the elderly has a negative effect on production by reducing their economic activity and increasing their role as consumers and increasing pressure on social security insurance and the pension organization. Also, the responsibility of caring for and caring for children has been a burden on the parents' activities and has had a negative impact, which must be addressed to correct the age structure and reduce the burden of care. Also, the higher the labor force participation and the higher the productivity, the faster the economic growth and development, which should be studied extensively to solve the problem of low labor productivity.

The results show that by improving human capital and improving labor productivity, such as increasing education, increasing life expectancy, increasing government education and health costs, as well as improving the business environment and creating infrastructure that Facilitate activities, facilitate licenses and reduce government interference in the activities of private companies and control inflation and create equal opportunities, we will see increased production and welfare in society.

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