Analysis of Regional Employment Structure Changes in Iran

The calculation of Shift and LQ share for regional employment in Iran shows: According to Kuznets (1955), the share of the labor force in agricultural production declined, while the share of the labor force in the industrial sector declined. Following the dynamic pattern of industrial employment in the bipartisan economy (Lewis-Fei-Ranis Model), with the widening productivity gap between the commodity and service sectors, the working population has shifted from the industrial and agricultural sectors to the commercial services sector and the main reason for the expansion of the role of services is the growth of information technology. In addition to accelerating the solution of the unemployment problem, it is contributing to the growth and development of the country's economy. According to Baumol's (1967) model, if we consider the total factor productivity, the productivity may be balanced in both the commodity and service sectors, and the cumulative effect is eliminated. Finally, according to Chenry's (1979) theory the share of industry and services sectors has increased and the results have been consistent with;

Keywords: *Employment; Economy; Rural; Shift-Share; LQ;*

Introduction

The rural economy plays a very important role in the national economy of the countries, and a large part of every country's workers are engaged in rural economic activities. In addition to providing food to the people as raw materials, agricultural products circulate resources. Agricultural products play an important role in economic self-sufficiency, political independence, food security, and foreign exchange earnings. Agricultural products have been the source of wealth and power for nations and governments, and today fewer countries can meet their needs without regard to the rural economy (Faraji Sabokbar et al., 2015: 3); therefore, to achieve economic development in the country, one must use all economic potentials in different sectors. The one-dimensional attitude towards the economic sectors causes the environmental capability of resource productivity to be depleted; therefore, the economic development in each land depends on the efficiency, integration and optimal mix between the economic sectors (agriculture, industry, and services) (Motiei Langroudi, 2011: 13); But the reality is that rural areas are potentially suffering from various economic, social and infrastructure problems (Townsend et al, 2013: 580) And in different regions of the country, there are many inequalities in development indicators, especially in terms of employment. The divide and inequality that exists are largely due to the lack of understanding of the potential of different regions in terms of economic development and the lack of proper planning in geographical locations. Existing inequalities have created a hierarchical spectrum of urban and rural settlements that at the highest level, the most affluent settlements, and vice versa, at the lowest level of the

hierarchy, the weakest settlements, or in other words, deprived settlements (Qadermarzai, 2015: 110). The most important of the inequalities is spatial inequality, which is the unequal distribution of economic and social opportunities and opportunities in space and can include inequalities between urban and rural areas, small and large cities, deprived and affluent areas. Spatial inequality causes the optimal use of space, undermining national and community cohesion, and makes it impossible to optimally and voluntarily allocate manpower, especially specialist manpower, to areas. As long as this regional inequality exists, regional planning is also inevitable (Nazarfar and Ali Ali Bakshi, 2018: 146). Since economic activities, in particular, and resources and facilities in general, are spatially disadvantaged in terms of spatial distribution, therefore, each area tailored to its specific characteristics requires specific programs that require any action in this area to identify the status of the different areas. The basis of scientific methods is appropriate (Faraji Sabokbar et al., 2015: 2). Rural development goals can not only be limited to agricultural and economic growth but must be examined in terms of balanced economic and social development, with an emphasis on equitable distribution of income and rapid income generation (Rahmani Fazli et al., 2018: 40). As a result, local planners need to recognize the strengths and weaknesses of the local economy. Local economic development planners need to know what the expansion of activities in the region was and what part of the study area has a competitive advantage or power (Mesri Nejad & Turki, 2004: 110).

The purpose of this study is to determine the employment status of major sectors and groups of activities in rural areas of Iran from 2011 through 2016 and to investigate the entry and exit of the labor force to determine the following questions:

- Among the different economic sectors, which sectors have had the most positive and negative impact on the change of share and place of employment?
- How was the situation of different economic sectors in the provinces of the country during the period 2011-2016?
- Has the agricultural sector experienced positive growth during the period 2011-2016?

Theoretical Foundations

The regional employment market reflects the socio-economic dynamics of the economy (Robson, 2009: 66), and therefore the data on the functions of these markets are of great importance for regional policymaking and the labor market data are indicative of the effectiveness and efficiency of policymaking. Goes away (Figueiredo, 2010: 900). The Role and Importance of Active Population in Developing Communities will be effective when all individuals in this class are active in various economic sectors and, in other words, employed because, for many scholars, the most important condition for the growth and development of any society is the creation of Employment is for the people of that community (Celik and Tatar, 2011: 1211). Concerning employment in the major economic sectors (agriculture, industry, and services), Keynes's theories became popular in the United Kingdom and then in other countries since the mid-1920s, and in 1936 he published the book Global Theory of Employment, Interest, and Money. Keynes believed that the government should intervene in the economy to achieve full employment. He believed that the level of employment had a direct relationship with the amount of production and the amount of production with the amount of effective demand (the number of goods and services purchased), so he believed that providing full employment and working for everyone was more important than balancing government revenues and expenses (Khodaparast et al., 2013: 93).

Economists such as Adam Smith, Ricardo, and Marx devoted most of their efforts to analyzing the commodity economy (agriculture, industry, and mining), thinking of services primarily in the form of financial services, referring to the non-productive nature of services. However, the growing importance of services made the service sector a third of the economy in the mid-1930s. Clark (1940) first noted the role of the service sector in economics. He showed that in different countries the number of firms operating in the industry sector is decreasing over time, while the number of firms in the service sector is increasing (Hassan pour, 2016: 11-10); however, there may not be an unlimited supply of labor in the rural economy, rural wages may rise and the allocation of labor within different segments of the rural economy may be affected (Mishra & Singh, 2019: 3); however, one of the best theories on the employment of the economic sectors was proposed by Kuznets (1955). He believes that in many countries the share of the labor force in agricultural production has declined, while the share of the labor force in the industry has increased in all countries studied .Also, productivity factors in the agricultural sector increased at a rate similar to the national average, but productivity in the industrial sector grew faster than the average of the total productivity of the economy, and eventually, the productivity growth rate in the service sector was lower than the average productivity growth for all economic sectors. It is one of the pillars of development in every region. The growth of economic sectors indicates the progress of each region and region, and having a specific purpose and path for economic activity in each location determines the progress of that area in a particular economic context (Ghaffarifard & Khoshsima, 2016: 10-9).

In the 1950s and 1960s, economic experts offered their views on the problem of unemployment in the developing world. The dynamic pattern of industrial employment in the bipartite economy has been put forward by Lewis and other economists such as Fei and Ranis. They believe that the underdeveloped economy has two parts: the agricultural or livelihood sector which is characterized by surplus labor and the livelihood sector is gradually shifting. Following the introduction of the service sector as a formal sector in national accounts during the 1960s and 1970s, phrases such as the "service revolution", the "post-industrial government", a new service economy emerged, reflecting the role of services in the economy (Hasanpour, 2016, 11-10); But one of the most important theoretical events in the service sector research in 1967 was described by the famous economist Baumol. The important thing about the Baumol model is that it only focuses on the productivity of the workforce in the service sector, but if we consider the total productivity of factors, it is possible that productivity in the commodity and service sectors is balanced, thus eliminating the burden (Qawidel & Azizi, 2008: 97). The original framework by Baumol and Bowen (1965) focused on the performing arts, showing that the unit cost of that industry must continually rise faster than the rate of inflation due to inherently low productivity growth (Sarriera et al, 2018: 11).

Finally, agriculture is one of the three most important and effective sectors for job creation and development in all countries, and development theorists believe that agriculture is at the beginning of the surplus development process, creating employment and providing the products and nutrients needed. According to Chenry's (1979) theory, the contribution of economic sectors to GDP and consequently to employment has changed. Accordingly, with the increase in per capita income in a society, the share of the agricultural sector in job creation has decreased and the share of industry and services sectors has increased (Baseri & Jahangir, 2007: 124).

The share shift model and LQ method and other related methods provide the main tool of regional economic inference in terms of the impact of the various economic activities involved. Also, these methods help evaluate these activities to each other and compare them with similar activities in other areas. These models also provide a method for identifying and identifying opportunities and opportunities for changing the structure of the region's economy to improve its performance (Mesrinejad & Turki, 2004: 110). Therefore, several studies have been carried out by these models, which are mentioned in Table (1).

Table 1. *Overview of Resources Related to the Research Topic*

Researcher/year	Results
Seydaei et al (2011)	The results show that employment is shifting towards services, and in the coming decades we will see employment growth in the service sector and a decline in the employment of other economic sectors in the province of Iran.
(2012) Akbari et al	The results show that Kermanshah province employees in Iran have disproportionate growth compared to Kermanshah province

Researcher/year	Results
	employees during the study period.
Haji Nejad et al (2014)	The results are based on the results of the shift and spatial coefficient model, based on the comparative advantage and export capability of industry sub-sectors including: "Mining, Water, Electricity, Gas and Building and Services in particular Finance and Insurance, Education, Public Affairs and Defense", It has an important role in Birjand employment growth in Iran.
Sepehrdoust and (2016) Barouti	The results show that the growth status of Lorestan province employees (IRAN) is inappropriate compared to the country employees in the period under study so that the shift-share analysis model explains the reason for this disproportionate competitive and structural changes.
Teymuri & Hakimi (2016)	Findings show that at the provincial level, 205865 people have been added to the working population. According to industry results, financial services, insurance, and real estate activities have been the most dynamic growth sectors.
Daei and Afshoon(2019)	The results show that Fars province in Iran has a comparative advantage in the sectors of industry and services during the period 2012-96 and is in the area of economic activity and has a potential advantage for economic growth.
Khan. S. & Ghani (1989)	Rural employment was studied in Pakistan with a particular focus on rural industrialization and concluded that the agricultural sector was not capable of generating large-scale employment and that non-agricultural employment should be considered.
Shi Chunyun and et al (2007)	In a study analyzing international tourism competition using change-share analysis throughout 1995–2004 for Jiangsu Province, one of China's provinces. The results show that the growth of international tourism in Jiangsu is mainly attributed to national growth and its competitive component (both positive).
Aya et al (2007)	In atopic titled Analyzing the Share of Change in Regional Employment Growth, 12 regions have examined the employment growth of Philippine industrial groups. They have finally calculated the share of national growth and industrial mix in all regions and their competitive effect.
Zeynep Elburz (2012)	In the dissertation of a Master's Degree at Istanbul Technical University, it examined employment changes in the 10 major groups of non-agricultural activities in the period 1998-2008. While identifying areas with rapid growth and competitive advantage. The 26 regions of Turkey are categorized into four groups according to overall employment changes, as well as changes in employment in manufacturing industries.
Otsuka (2016)	In an article on energy demand in regions of Japan, we have identified the factors influencing changes in energy demand in Japan using shift-share analysis.

A review of various sources shows that the share shift model and the spatial coefficient method and other related methods have been used to evaluate different urban economic activities. But to the extent, that background studies show that these models have not been used as a method for identifying

and identifying opportunities and opportunities for rural economies, the shift-share, and LQ of major rural activities.

Research Methodology

In this study, by employing a change-share method, the employment status of major sectors and sectors of economic activity in rural areas of Iran's provinces during the period of 1395-2011 has been investigated, and also labor entry and exit conditions through the spatial factor have taken. The data used in this study are based on the statistics of the Iranian Statistical Center. To find out more accurately, the spatial distribution of hot spots (high spatial clustering) and cold spots (low spatial clustering) were used by Getis- Ord Gi statistics. When a complication is considered to be a hot spot when both itself and the conditions in it are high, if the Getis- Ord Gi statistics, +3, +2, and +1 are reached, the rate of 99 %, 95%, and 90% are considered.

The traditional form of shift-share analysis was introduced by Dunn (1960) and then developed in alternative versions. It is a popular tool for analyzing regional dynamics in employment and labor productivity (Grossi & Mussini, 2018: 279) and one of the regional planning analyzes is the shift-share model, which examines the effects of change in the employment (production) of a region over a given period in comparison to the ratio of total change in national employment level including national growth effect, structural effect (sectoral mix) and effect. It is used competitively. The relative advantage of a given area can be analyzed by calculating its competitive effect (Balasa, 1965: 107). This model was used by Edgar Danger for regional analysis. The shift-share analysis is appropriate for examining the effects of industrial restructuring on the regional economy and enables it to be formulated by identifying the leading and key industries of the regional industrial pattern. It can also attribute regional economic changes to the growth of the national economy, industrial structure and competitiveness of regional industries. By interpreting this model, one can identify the economic advantages of the region and the sectors with potential growth potential (Shahdani and Ghafarifard, 2009: 120). Following is the introduction of the models used.

Location Quotient Method

This method is used to identify the base sector in different regions and is one of the most popular theories of base economy growth. This theory places particular emphasis on the separation of basic activities and the rest as non-basic activities. The total employment in an area is equal to that of basic and non-basic employment, the formula of which is shown in Table 2.

Table 2. *Interpretation of the Location Quotient method*

Variable description	Variable	Formula
Total income or total employment	T	T = B +S
Income by Employing the "Non-Basic Economy" B	S	
Employment income in the basic Economy	B	
Location Quotient part i	$L.Q_i$	$L.Q_i = \frac{\frac{e_i}{e}}{\frac{E_i}{E}}$
Employment of the region in all sectors	e	
National employment in all sectors	E	
Area employment in section i	e_i	
National employment in section i	E_i	

- If: L.Q = 1, the area is self-sufficient;
- If: L.Q ≥1, the region is an exporter of goods and services and expresses a basic activity with a basic economy;
- If: L.Q ≥ 1 is the importing area. The value of these activities is non-core or subordinate.

Regional Construction Analysis and Economics - Shift-Share Analysis

The shift-share method can be used to analyze and predict economic conditions and employment at geographical levels, below the region and above the city. In this way, the measures can be income, production, export, and money tendency, and this is called the country or province reference scale, which measures the geographical levels studied. In Iran, because employment statistics are not available except for employment statistics, so employment statistics are used. The shift-share method examines the difference in the growth of the economic sectors of the city compared to the growth of the sectors at the reference economy level. This difference, which may be positive or negative, reflects the shift or shift of the city's share of the economy in the reference economy. This shift-share can be caused by the three elements shown in Table (3).

Table 3. *Three Elements of Construction Analysis and Area Economics*

Element name	Formula	Usage
Reference economy growth element	$NS_i = e_i^{t-1}(\frac{E^t}{E^{t-1}} - 1)$	It represents the total employment changes in the reference economy over two periods.
The element of the relative growth of economic sectors in the entire reference economy	$IM_i = e_i^{t-1}(\frac{E_i^t}{E_i^{t-1}} - \frac{E^t}{E^{t-1}})$	It measures the relative growth or decline of each sector of the economy in the entire reference economy. The positive or negative of this measure means that the sector in the entire economy of reference has risen or fallen.
The performance element of each segment relative to the performance of the same segment at the reference level	$RS_i = e_i^{t-1}(\frac{e_i^t}{e_i^{t-1}} - \frac{E_i^t}{E_i^{t-1}})$	This measure measures the competitive position of each economic sector compared to the reference economy. Being positive means that it is growing faster than the reference economy as a whole, and being negative in the sense of lagging.

Element name	Formula	Usage
Employment changes in every economic sector	$TS_i=NS_i+IS_i+RS_i$	The sum of the results of these three formulas illustrates the employment changes in each economic sector studied.
Describe the variables in the formula	eit-1	Area employment in section i at the beginning of the period.
	Et	Total national employment at the end of the period
	Et-1	Total national employment at the beginning of the period
	Eit	National employment in Section i at the end of the period
	Eit-1	National employment in section i at the beginning of the period
	eit	Area employment in Section i at the end of the period

Discussion

In this section, the analysis of major economic sectors of rural areas of each of the provinces of IRAN in comparison with the rural areas of the whole country during the period (2011-2016) has been done using the shift-share method. Table 4 shows the employment share of rural areas in each province.

Table 4. *Share of employment by major economic sectors and provinces*

	The share of employment in the "section"					
	2011			2016		
	Agricultural	industry	services	Agricultural	industry	services
IRAN	50,4	28	21,6	50,3	25,4	24,3
East Azerbaijan	49	35,4	15,6	51,8	30	18,2
Western Azerbaijan	67,2	17,8	15,1	66,1	15	18,9
Ardabil	76,2	11,1	12,7	72	12,9	15,2
Esfahan	38	38,3	23,7	37,4	30,9	31,7
Alborz	18,4	39,4	42,2	16,9	42,8	40,3
Ilam	57,2	26,4	16,4	53,7	24,3	22
Bushehr	38,5	23,5	38	26,6	26,2	47,2
Tehran	10,3	46,6	43,1	10,9	46,9	42,2
Chahar Mahal Bakhtiari	28,4	50,8	20,8	33,4	42,3	24,3
South Khorasan	55,9	35,2	8,9	56	27,8	16,2
Khorasan Razavi	62,3	23,4	14,3	63,5	20,9	15,7
North Khorasan	67,3	21,5	11,2	68,4	18,5	13,1
Khuzestan	40,1	33,9	25,9	53,4	20,5	26,1
Zanjan	65,2	22,5	12,3	70,2	18,6	11,1
Semnan	37,2	39,9	22,9	41,4	28,6	30
Sistan and Baluchistan	43,9	37,2	18,9	37,3	34,3	28,4
Fars	49,1	26,7	24,2	45,6	27,5	26,9
Qazvin	59,1	23,8	17	49,8	23,2	27
Qom	45,9	29,7	24,4	33,6	36,6	29,8
Kurdistan	65,7	18,6	15,7	61,1	19,6	19,3

Kerman	56,8	26	17,2	64,8	18,1	17,1
Kermanshah	67,3	18,1	14,6	66,6	13,9	19,5
Kohgiluyeh and Boyer Ahmad	37,3	33,9	28,8	40,1	26,9	33
Golestan	46,2	30,6	23,2	47,5	25,7	26,8
Gilan	50,1	21	28,9	53,6	18,9	27,4
Lorestan	60,5	25,6	13,9	54,8	27,7	17,5
Mazandaran	36,2	28,6	35,2	34,8	28,3	36,9
Markazi	56,8	28,2	15	51	30,2	18,8
Hormozgan	29,8	32,9	37,3	33,2	36,9	29,9
Hamedan	49,6	29,7	20,7	52,2	25,8	22
Yazd	37,2	36,6	26,2	29,5	44	26,5

Reference: Labor Force Survey Results of 2011 & 2016 and Writers' Computations, 2018

Based on the calculation of the employment share (Table 5), this share:

- In the agricultural sector, it has decreased from 50.4% in 2011 to 50.3% in 2016 and decreased by 0.1%;
- In the industrial sector, from 28% in 2011 to 25.4% in 2016 and decreased by 2.6%; and
- In the service sector, it rose from 21.6% in 2011 to 24.3% in 2016 and increased by 2.7%.

Following the analysis, the location coefficient (LQ) is used to identify and identify the basic activities of rural areas in each province. As noted in the methodology section, in the LQ calculation, the spatial ratio is the proportion of each sector (economic activity) of total employment at the provincial level relative to its share at the national level. If the ratio is greater than one, then the economic activity is considered to be basic, but if it is smaller than one, it is considered as non-basic activity and if equal to one, it is self-sustaining.

Table 5. *Location Quotients of Major Activity of Rural Areas of Provinces*

Province	**2011**			**2016**			Basic activity in 2016
	Agriculture	Industry	service	Agriculture	Industry	service	
East Azerbaijan	1,0	1,3	0,7	1,0	1,2	0,7	Industry
Western Azerbaijan	1,3	0,6	0,7	1,3	0,6	0,8	Agriculture
Ardabil	1,5	0,4	0,6	1,4	0,5	0,6	Agriculture
Esfahan	0,8	1,4	1,1	0,7	1,2	1,3	, service
Alborz	0,4	1,4	2,0	0,3	1,7	1,7	Industry,
Ilam	1,1	0,9	0,8	1,1	1,0	0,9	Agriculture
Bushehr	0,8	0,8	1,8	0,5	1,0	1,9	Services
Tehran	0,2	1,7	2,0	0,2	1,8	1,7	Industry, service
Chahar Mahal Bakhtiari	0,6	1,8	1,0	0,7	1,7	1,0	Industry

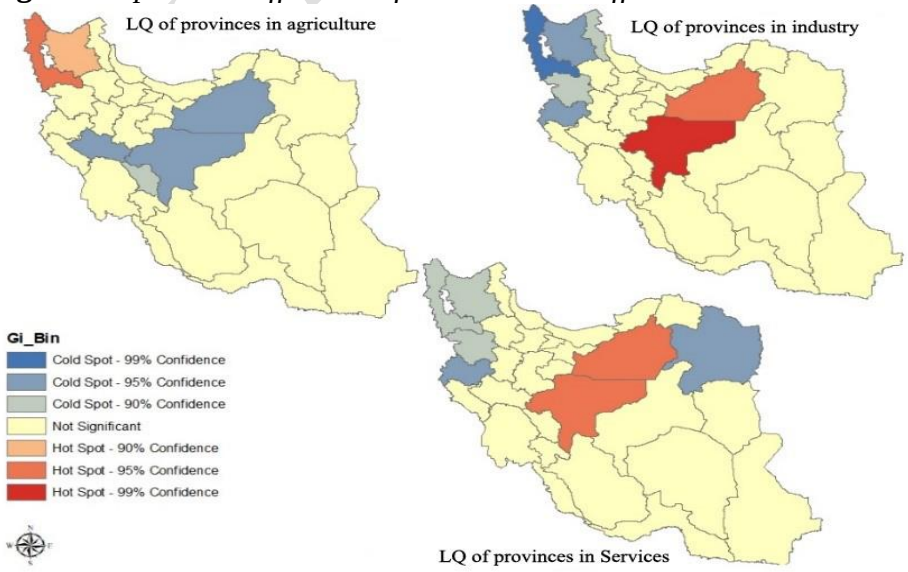
Province	2011			2016			Basic activity in 2016
	Agriculture	Industry	service	Agriculture	Industry	service	
South Khorasan	1,1	1,3	0,4	1,1	1,1	0,7	Agriculture, industry
Khorasan Razavi	1,2	0,8	0,7	1,3	0,8	0,6	Agriculture
North Khorasan	1,3	0,8	0,5	1,4	0,7	0,5	Agriculture
Khuzestan	0,8	1,2	1,2	1,1	0,8	1,1	Agriculture, Services
Zanjan	1,3	0,8	0,6	1,4	0,7	0,5	Agriculture
Semnan	0,7	1,4	1,1	0,8	1,1	1,2	Industry, service
Sistan & Baluchistan	0,9	1,3	0,9	0,7	1,4	1,2	Industry, service
Fars	1,0	1,0	1,1	0,9	1,1	1,1	Industry, service
Qazvin	1,2	0,9	0,8	1,0	0,9	1,1	Services
Qom	0,9	1,1	1,1	0,7	1,4	1,2	Industry, service
Kurdistan	1,3	0,7	0,7	1,2	0,8	0,8	Agriculture
Kerman	1,1	0,9	0,8	1,3	0,7	0,7	Agriculture
Kermanshah	1,3	0,6	0,7	1,3	0,5	0,8	Agriculture
Kohgiluyeh & Boyerahmad	0,7	1,2	1,3	0,8	1,1	1,4	Industry, service
Golestan	0,9	1,1	1,1	0,9	1,0	1,1	Services
Gilan	1,0	0,8	1,3	1,1	0,7	1,1	Agriculture, Services
Lorestan	1,2	0,9	0,6	1,1	1,1	0,7	Agriculture, industry
Mazandaran	0,7	1,0	1,6	0,7	1,1	1,5	Industry, service
Markazi	1,1	1,0	0,7	1,0	1,2	0,8	Industry
Hormozgan	0,6	1,2	1,7	0,7	1,5	1,2	Industry, service
Hamedan	1,0	1,1	1,0	1,0	1,0	0,9	-
Yazd	0,7	1,3	1,2	0,6	1,7	1,1	Industry, service

References: Labor Force Survey Results for 2011 & 2016 and Writers' Calculations, 2018

Table 5 shows the spatial coefficients of agricultural, industrial and services sectors as well as basic activities in 2016. As is clear:

- The rural areas of East Azerbaijan, Chaharmahal and Bakhtiari and Markazi provinces have only basic activity in the "industry" sector;
- The rural areas of West Azerbaijan, Ardebil, Ilam, Khorasan Razavi, North Khorasan, Zanjan, Kordestan, Kerman, and Kermanshah provinces have basic activities in the agricultural sector;
- The rural areas of Bushehr, Qazvin, and Golestan provinces have basic activities in the "Services" section;
- Rural areas of South Khorasan and Lorestan provinces have basic activities in "Agriculture and Industry" sectors;
- The rural areas of Khuzestan and Gilan provinces have basic activities in the "Agriculture and Services" sectors;
- The rural areas of Isfahan, Alborz, Tehran, Semnan, Sistan and Baluchestan, Fars, Qom, Kohgiluyeh and Boyer Ahmad, Mazandaran, Hormozgan and Yazd provinces have basic activities in the "industry and services" sectors;
- The rural areas of Hamedan province have no basic activity in 2016, while in the first year of the study period, the industrial sector was considered as basic activity;
- The agriculture sector, which was considered as non-basic activity in rural areas of Khuzestan province in 2011, became non-basic in 2016 and non-basic activity in Fars province at the beginning of the basic activity period. During the period under study, the industrial sector in Ilam, Bushehr and Lorestan provinces has been transformed from non-base to baseline and in Khuzestan province from baseline to baseline. At the beginning of the period, the service sector, which was considered a non-core activity in Sistan and Baluchestan and Qazvin provinces, has changed to basic activity at the end of the period and from basic to non-basic activity in Hamadan province.

Figure 1. *Spatial Coefficients of Provinces in Different Economic Sectors*



As a result, the agricultural sector in the rural areas of 13 provinces; the industrial sector in the rural areas of the 16 provinces and the service sector in the rural areas of the 16 provinces have been the main activities in 2016.

Table 6 below examines the amount of different components of the model relative to the elementary employment by component and province, including: "Reference Economy Growth Element" to examine the total employment changes in the reference economy over two periods (2011-2016) ؛ "Relative growth element of economic sectors in the reference economy as a whole" to measure the relative growth or decline of each economic sector in the reference economy as a whole; ؛ "Elemental performance of each sector relative to the performance of the same sector at a reference level" to measure the competitive position of each economic sector relative to Reference economics and finally "employment changes in every economic sector" are discussed.

Table 6. *The amount of different components of the model relative to early-period employment by component and province*

Province	NS			IS			RS			TS		
	Agricultural	industry	services	Agricultural	industry	services	Agricultural	industry	services	Agricultural	industry	services
East Azerbaijan	3/6	3,69	3,69	-0,21	-9,63	12,96	3,73	-8,11	1,67	7,21	-14,05	18,32
Western Azerbaijan	3,69	3,69	3,69	-0,21	-9,63	12,96	-10,24	-14,17	2,01	-6,75	-20,11	18,66
Ardabil	3,69	3,69	3,69	-0,21	-9,63	12,96	-14,65	15,20	-4,13	-11,17	9,26	12,52
Esfahan	3,69	3,69	3,69	-0,21	-9,63	12,96	-3,06	-11,74	19,83	0,43	-17,68	36,48
Alborz	3,69	3,69	3,69	-0,21	-9,63	12,96	38,62	74,00	31,10	42,10	68,07	47,75
Ilam	3,69	3,69	3,69	-0,21	-9,63	12,96	-16,44	-8,72	7,73	-12,96	-14,66	24,38
Bushehr	3,69	3,69	3,69	-0,21	-9,63	12,96	-21,96	37,49	29,91	-18,48	31,55	46,56
Tehran	3,69	3,69	3,69	-0,21	-9,63	12,96	8,58	12,52	-12,97	12,06	6,58	3,68
Chahar Mahal Bakhtiari	3,69	3,69	3,69	-0,21	-9,63	12,96	-1,60	-21,92	-15,44	1,88	-27,86	1,21
South Khorasan	3,69	3,69	3,69	-0,21	-9,63	12,96	20,96	4,05	109,46	24,45	-1,89	126,11
Khorasan Razavi	3,69	3,69	3,69	-0,21	-9,63	12,96	-3,01	-6,02	-8,43	0,47	-11,96	8,22
North Khorasan	3,69	3,69	3,69	-0,21	-9,63	12,96	13,85	5,27	18,38	17,33	-0,66	35,03
Khuzestan	3,69	3,69	3,69	-0,21	-9,63	12,96	42,83	-27,62	-5,93	46,31	-33,56	10,72
Zanjan	3,69	3,69	3,69	-0,21	-9,63	12,96	-9,94	-22,24	-38,25	-6,46	-28,18	-21,60
Semnan	3,69	3,69	3,69	-0,21	-9,63	12,96	28,40	-9,12	38,59	31,88	-15,06	55,24
Sistan & Baluchistan	3,69	3,69	3,69	-0,21	-9,63	12,96	-2,46	15,57	62,01	1,02	9,63	78,66
Fars	3,69	3,69	3,69	-0,21	-9,63	12,9	-12,86	6,45	-8,18	-9,37	0,51	8,47

Province	NS			IS			RS			TS		
	Agricultural	industry	services	Agricultural	industry	services	Agricultural	industry	services	Agricultural	industry	services
						6						
Qazvin	3,69	3,69	3,69	-0,21	-9,63	12,96	-23,19	-1,18	34,69	-19,71	-7,12	51,34
Qom	3,69	3,69	3,69	-0,21	-9,63	12,96	-36,18	19,24	-4,36	-32,70	13,30	12,29
Kurdistan	3,69	3,69	3,69	-0,21	-9,63	12,96	-21,06	-0,67	-7,71	-17,58	-6,61	8,95
Kerman	3,69	3,69	3,69	-0,21	-9,63	12,96	52,66	1,22	19,42	56,14	-4,72	36,07
Kermanshah	3,69	3,69	3,69	-0,21	-9,63	12,96	-4,61	-17,33	16,80	-1,12	-23,27	33,45
Kohgiluyeh & Boyerahmad	3,69	3,69	3,69	-0,21	-9,63	12,96	30,67	4,96	26,33	34,15	-0,98	42,98
Golestan	3,69	3,69	3,69	-0,21	-9,63	12,96	-9,10	-16,96	-10,61	-5,62	-22,90	6,04
Gilan	3,69	3,69	3,69	-0,21	-9,63	12,96	4,80	-2,97	-20,69	8,28	-8,91	-4,04
Lorestan	3,69	3,69	3,69	-0,21	-9,63	12,96	-20,98	4,49	-1,98	-17,50	-1,44	14,67
Mazandaran	3,69	3,69	3,69	-0,21	-9,63	12,96	3,65	16,22	0,18	7,14	10,28	16,83
Markazi	3,69	3,69	3,69	-0,21	-9,63	12,96	-26,76	-2,55	-9,55	-23,27	-8,49	7,10
Hormozgan	3,69	3,69	3,69	-0,21	-9,63	12,96	66,61	77,18	5,74	70,10	71,24	22,39
Hamedan	3,69	3,69	3,69	-0,21	-9,63	12,96	2,51	-6,57	-9,61	5,99	-12,51	7,04
Yazd	3,69	3,69	3,69	-0,21	-9,63	12,96	-28,36	19,82	-20,84	-24,88	13,88	-4,19

References: Authors' Calculations, 2018

The relative growth element of the economic sectors as a whole in the reference economy or the effect of the industrial mix (IS) means that the combination of employment in different economic sectors in rural areas of the province is such that it has a higher share in sectors with higher national growth rates. Because during the study period the share of agricultural employment has decreased from 50.4% to 50.3%, the effect of this factor in the provinces is different from the employment share of this part of the total employment in rural areas, such as Khorasan provinces. Razavi, West Azerbaijan and Fars lost the most and Alborz, Qom and Semnan provinces had the lowest agricultural employment. During the study period, the share of employment in the industrial sector decreased from 28% to 25.4%, which is why East Azarbaijan, Khorasan Razavi and Fars provinces lost the highest number of jobs in Qom, Semnan, and Ilam. Unlike the agriculture and industry sectors, the share of employment in the service sector has increased from 21.6% to 24.3%. Of this growth, Mazandaran, Fars, and Tehran provinces have the highest use and Qom, South Khorasan and Semnan provinces have the least utilization.

Table 7. *Grouping provinces by competitive advantage or competitive share*

group	RS		
	Agricultural	**industry**	**services**
1	Hormozgan, Kerman, Khuzestan	Hormozgan, Alborz	southern Khorasan
2	Alborz, Kohgiluyeh & Boyerahmad, Semnan, South Khorasan	Bushehr	Sistan and Baluchestan, Semnan
3	North Khorasan, Tehran, Gilan, East Azarbaijan, Mazandaran, Hamadan, Chaharmahal & Bakhtiari, Sistan & Baluchestan, Khorasan Razavi, Isfahan, Kermanshah, Golestan, Zanjan	Yazd, Qom, Mazandaran, Sistan and Baluchestan, Ardabil, Tehran, Fars, North Khorasan, Kohgiluyeh & Boyerahmad, Lorestan, South Khorasan, Kerman, Kurdistan, Qazvin	Qazvin, Alborz, Bushehr, Kohgiluyeh & Boyerahmad, Isfahan, Kerman, North Khorasan, Kermanshah, Ilam, Hormozgan, West Azarbaijan, East Azarbaijan, Mazandaran
4	West Azarbaijan, Fars, Ardabil, Ilam, Lorestan, Kurdistan, Bushehr, Qazvin, Markazi, Yazd, Qom	Markazi, Gilan, Khorasan Razavi, Hamedan, East Azarbaijan, Ilam, Semnan, Isfahan, West Azarbaijan, Golestan, Kermanshah, Chaharmahal & Bakhtiari, Zanjan, Khuzestan	Lorestan, Ardabil, Qom, Khuzestan, Kurdistan, Fars, Khorasan Razavi, Markazi, Hamadan, Golestan, Tehran, Chaharmahal & Bakhtiari, Gilan, Yazd, Zanjan

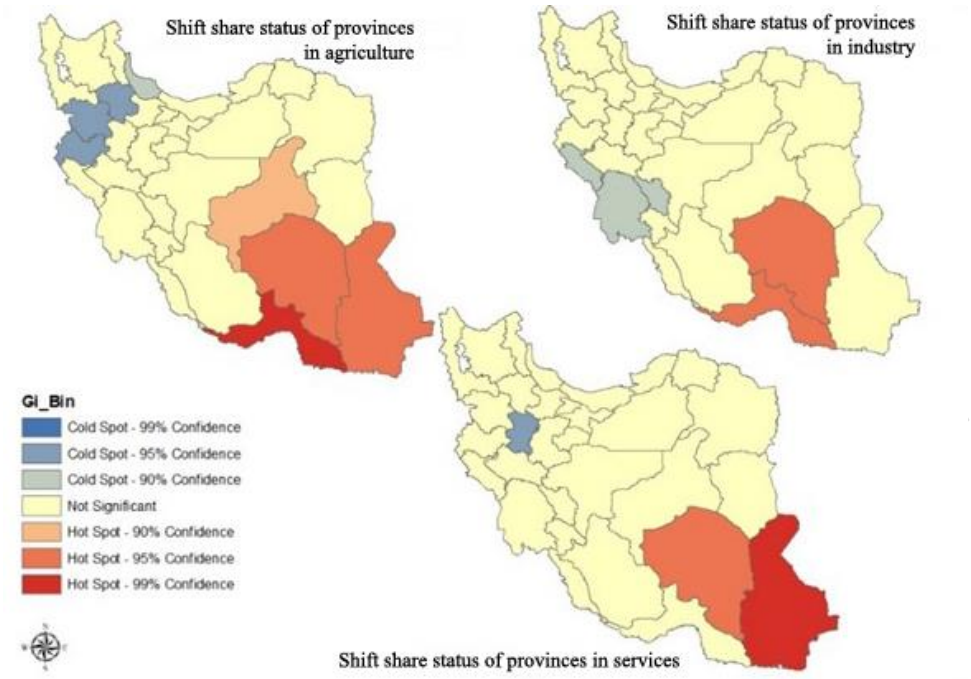
References: Authors' Calculations, 2018

The performance element of each sector relative to the performance of the same sector at the reference level or the effect of competitive share (RS) shows the competitive strength of each province versus other provinces, and extracting this effect or share is the most important part of applying the share change model as It is a method of intra-regional evaluation. The amount of this component depends on various intra-regional factors such as management, technologies used, and local policies, etc.

In Table (7) the provinces are divided into four groups according to the amount of this component so that the provinces with more competitive effects are in group one and the provinces with less competitive effects are in the following groups. According to this index, the agricultural sector of Hormozgan, Kerman and Khuzestan provinces, industry sector of Hormozgan and Alborz provinces and service sector of South Khorasan province had the best performance.

A survey of the Total Employment Element (TS) in each of the economic sectors indicates that the provinces with the highest competitive advantage have the highest rate and the provinces with the least competitive advantage have the lowest total employment. In general, the agricultural and industrial sectors in the rural areas of the country have no comparative advantage in terms of employment.

Figure 2. *The situation of provincial competitive share in major economic sectors*



Conclusion

The present study examines employment in major economic sectors (agriculture, industry, and services). According to Keynes, the state must intervene in the economy to achieve full employment, ie the level of employment is directly related to the amount of production and the amount of product to the effective demand. While the distribution of employment statistics shows that in 1395 the total number of employed in rural areas of the country has increased by 226590 compared to 2011, which according to the calculation of employment share, the share of agricultural sector has decreased by 0.1%; The industry sector had an employment share of 2.6% and negative growth, while the services sector experienced a growth of 2.7%, indicating that the service sector has a high growth compared to other sectors. Given the negative effects of the hoard on the level of real variables in the economy (Dastgerdi and Rahimi, 1396: 817), development planners need to put in place appropriate economic policies that can reduce the amount of hoard in the economy. These include monetary policy, targeted bank interest rate cuts and cancellation of property taxes in capital assets such as real estate. Clark's (1940) claim to increase the number of service firms can also be confirmed, given the increase of about 2.7% in the service sector.

According to Kuznets (1955), the share of the labor force in agricultural production declined in rural areas during the period under study, while the share of the labor force in the industrial sector increased. Also, productivity factors in agricultural production have increased at a similar rate to the national

average, but productivity in the industrial sector has grown faster than the average of the total economy. According to this theory, the growth of economic sectors is indicative of the progress of each region, and having a specific purpose and path for economic activity in each location indicates the progress of that region in a particular economic context. The results show that the rural areas of 13 provinces in the agricultural sector, the 16 provinces in the industry sector and the 16 provinces in the services sector have a basic activity in 2016; Also, the relative growth element of the economic sectors as a whole in the reference economy or the effect of industrial mix (IS) shows that during the period under study, the share of agricultural employment decreased from 50.4% to 50.3%, with the provinces of Khorasan Razavi, West Azerbaijan, and Fars the most and provinces. Alborz, Qom, and Semnan have lost the least employment in agriculture and East Azarbaijan, Khorasan Razavi and Fars provinces also lose most jobs in industry and Qom, Semnan and Ilam have lost the lowest number of jobs in industry; Most of the growth of service sector has been most used in Mazandaran, Fars and Tehran provinces; finally, Qom, South Khorasan, and Semnan provinces had the lowest utilization.

Following the dynamic pattern of industrial employment in the bipartite economy (Louis, Fei, and Ranis), we are seeing the entry of the service sector as an official sector, reflecting the role of services in the country's economy, as the results show that in addition to the 2.7% growth in the sector Service, South Khorasan Province performed best. In contrast, in the agricultural sector, Hormozgan, Kerman, and Khuzestan provinces and the industrial sector, Hormozgan, and Alborz provinces have performed well .This suggests that as the productivity gap widens between the commodity and service sectors, the working population shifts from the industrial and agricultural sectors to the commercial services sector .In other words, part of the labor force (driven by the increase in productivity in the industrial and agricultural sectors and moving to the service sector) falls into the business services sector. The main reason for the expansion of the role of services is the growth of information technology, which, in addition to accelerating the solution of the unemployment problem, is driving the growth and development of the country's economy.

According to Baumol's (1967) model, if we consider the total factor productivity, the productivity may be balanced in both the commodity and service sectors, and the cumulative effect is eliminated .According to the results of the research, agricultural and industrial sectors in rural areas of Iran have no comparative advantage in terms of employment. The agricultural sector, which was considered to be a non-core activity in rural areas of Khuzestan province in 2011, has become a core activity in 1395 and has become a non-core activity in Fars province since the beginning of the base period .During the period under study, the industrial sector in Ilam, Bushehr and Lorestan provinces has been transformed from non-base to base and in Khuzestan province from base to base .The service sector, which was considered non-core activity at the beginning of the period in the provinces of Sistan and Baluchestan and Qazvin, has become a core activity at the end of

the period and has become a base activity in the province of Hamadan; Therefore, instead of planning to create employment in industry and agriculture, it is necessary to increase labor productivity and total factor productivity in these sectors because as productivity growth in the industrial and agricultural sectors declines, direct employment and productivity growth lead to increased production and higher product competitiveness, resulting in increased production and per capita income, which results in new services (manpower). Therefore, it is recommended that planners' policies aim at creating employment in service sectors that complement the agricultural and industrial sectors.

Finally, given the importance of the agricultural sector in the rural economy, agriculture is one of the three most important and effective sectors in creating and developing employment in all countries and according to Chenry's (1979) theory, with the increase in per capita income in a society, the share of the agricultural sector in job creation has declined and the share of industry and services sectors has increased and the results have been consistent with; Therefore, the government, recognizing the key sectors and activities that have competitive advantage, must adapt its strategies and policies to prioritize investment in core activities and guide employment policies towards these sectors. Rural employment planning should also be undertaken by examining the employment status of each province and avoiding general prescriptions for all regions.

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