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Analyzing The Economic Base of The City of Samarra Using Some Regional Methods

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ABSTRACT

Urban economic studies of cities occupy a prominent position within the fields of human geography, and interest in this area has increased due to the diversity of economic activities carried out by cities. Therefore, the city's need for this type of study represents a central focus for interpreting urban growth in cities. The problem, therefore, lies in the lack of comprehensive economic studies that illustrate the urban economic reality, both in terms of specialization and diversity, in most cities and regions, including Samarra. This paper aims to identify the economic base of Samarra, taking the city's municipal boundaries as a framework and defining them with official statistical data. It then applies mathematical equations to this area, with the aim of employing such studies in applied urban planning. To understand the economic foundation of Samarra, an analytical approach supported by some statistical methods was used, through which the economic foundation of the city was analyzed, relying on the hypothetical method and the location quotient (LQ) method. The study concluded that the economic foundation ratio of the city amounted to (1.4), which means that each basic job opportunity creates four non-basic job opportunities. The results of the location quotient (LQ) for the year (2023) also showed that the drivers of economic growth in Samarra are industrial, commercial, and educational activities, as the location advantage was greater than one (1<LQ). Other sectors enjoyed by Samarra can also be supported, such as the agricultural sector, in addition to supporting the religious and archaeological tourism sector, as the increased spending by visitors and tourists on holy religious sites plays an increasing role in stimulating the city's local economy. The study recommends the necessity of developing a development plan for the city according to its geographical capabilities to strengthen and diversify its economic foundation, which will positively reflect on the city's urban growth and development.

Key words:
Economic base; Employment base multiplier; urban economy.

INTRODUCTION.

Countries compete to develop their national and regional economies and increase the well-being of their peoples, and this requires rational investment of their existing resources to ensure the realization of these goals, as the first step towards facing public issues in any city is detailed knowledge of its economic base. Knowledge of the economic base is necessary to make sound public decisions in the form of master plans, and investment plans to diversify the economic base require knowledge of the market prospects in the city and its regional surroundings (Tiebout, 1962, p11).

In doing so, local and regional policymakers need to develop sound policies based on an analysis of the economic, social and political structure, and this requires a number of economic analysis tools, which are among the most reliable decision-making tools for regional and local policymakers to prioritize support sectorally and spatially. There are many tools that help in describing, documenting and analyzing changes in the local economy to help and enable sound and informed decisions, and these models are widely used, due to their simplicity and ease of use, with the aim of developing the local or national economy after knowing the reality of its situation and studying it carefully to see the strengths and weaknesses and then the next step comes to address the weaknesses and enhance the strengths that may be available in a particular urban community (Pfouts, 1960, p45).

Therefore, this study sought to help diagnose the current sources of income and employment in the city of Samarra, and identify the weaknesses in its urban economy, as the information resulting from the study of the economic base helps in making government decisions, so this study came to analyze the economic base of the city of Samarra through the use of some important analytical methods such as the economic base method and the location advantage criterion method, as these and other methods can contribute in analyzing the economic base of the city and indicating its economic potential in order to give the indicators needed by decision makers in developing the local economic reality

RESEARCH PROBLEM.

The diversity of economic components in the city of Samarra is explained by factors that influenced the image of the economic base and varied according to the natural, social and economic factors in it, and this statement defines a number of questions, including: -

1.What are the statistical methods and techniques that can be used to reveal the economic base in the study area?

2.What is the extent of the impact of geographical factors (natural and human) on the diversity of the sources of the economic base in the city?

Research hypothesis.

From the previous issues, the following hypothesis can be identified (several variables and geographical factors (natural, demographic, economic, and economic) contributed to the economic base of Samarra city, which led to an imbalance between the main economic base that brings income to the city and the secondary economic base, according to the different sources of the economic base in the city), and this statement defines a number of hypotheses, including: -

1.There are many statistical methods and methods that can be used to know the economic base in the city.

2.Natural, demographic, economic, and social factors have played an important role in the variability of the sources of the economic base in the study area.

Importance of research.

The importance of the study lies in the fact that studying the economic base in the city using statistical methods helps decision makers in the city to take the necessary and necessary measures when preparing urban plans in the city, due to the possibilities of analysis, evaluation, prediction and sound development decision-making.

Objectives of the study.

The study mainly aims to study the economic base of the city of Samarra using some regional methods, by achieving the following objectives: -

1- This research aims to understand the current sources of income in the city.

2- Highlighting the weaknesses in the economy of the city's urban community.

3- Giving a realistic picture of the nature of the economic base on which the city is based and employing its statistical results in applied fields to serve decision makers in setting future population strategies for planning and sustainable development.

4- Basic and periodic studies of the economic base can enable the community to assess its progress towards the general goals set by decision makers to improve the economic base of the city.

In order to achieve the aforementioned study objectives, the study relied on a number of research approaches and scientific methods, including the descriptive and analytical method by collecting data and geographical information to identify the economic base of Balad city, and the statistical method was used to measure the economic base in the study area, as well as the use of contemporary technologies and applications available within the Arc Gis 10.8 program to represent the study data and some phenomena related to the subject of the research.

Location of the study area.

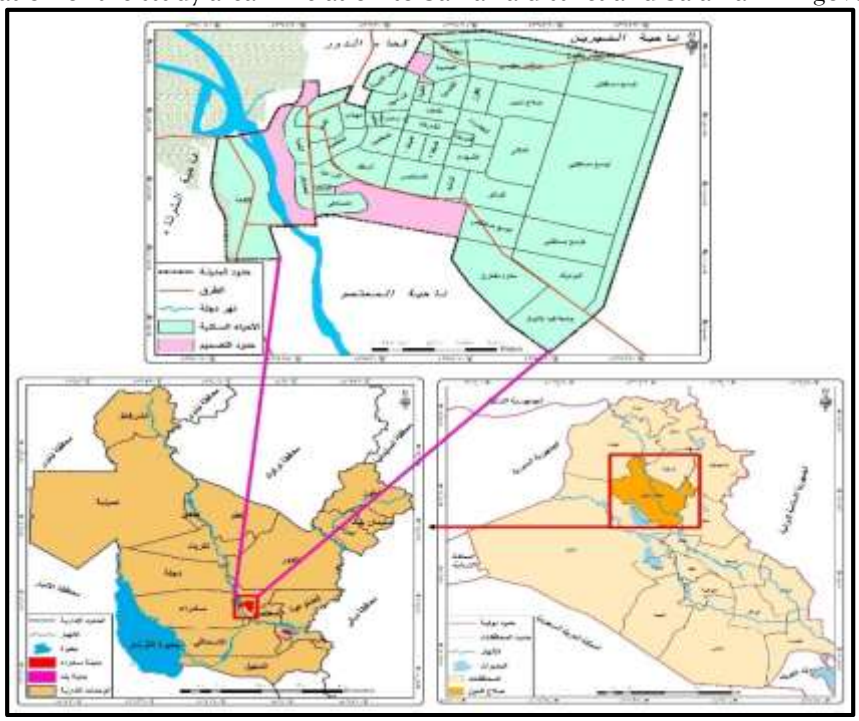
The city of Samarra is located in the central part of Salah al-Din Governorate, and represents (the center of a district known by its name) one of the main districts of Salah al-Din Governorate, with three districts (Dijlah, Al-Mutasim and Al-Markaz), and the city is located on the main road (Baghdad - Mosul) north of the capital Baghdad by a distance of (120) km and a distance of (270) km from Mosul, which increased the advantages of the city's location, which increased the advantages of its location. It is bordered to the north by the Tigris district of Samarra district at a distance of (20) km,

the city of Tikrit at a distance of (50) km and the city of Al-Dur at a distance of (30) km, to the south by the Ishaqi district of Balad district at a distance of (20) km, to the east by Al-Mu'tasim district at a distance of (20) km and Al-Jalam area of Al-Dur district, and to the west by Al-Jazeera area and Al-Tharthar project.

As for the location of the city of Samarra, which is determined by latitude and longitude, it is located between two latitude circles (13°34o and 90°34o) in the north and between two longitude lines (56°44o and 44°43o) in the east. The study area included (27) neighborhoods, (26) of which are residential neighborhoods and (1) representing the industrial neighborhood, occupying a geographical area of (4353) hectares, inhabited by (169829) people for the year (2021), (Ministry of Planning, 2022, p. 12) (Ministry of Planning, 2022, p. 12).

Map (1)

Location of the study area in relation to Samarra district and Salah al-Din governorate



Source: Researcher's work based on: General Authority for Surveying, Administrative Map of Iraq, scale 100000/1. Map of Salah al-Din Governorate, scale 250000/1. Samarra Municipality Directorate, City Planning Division, Samarra city numbering map.

1 .Quantitative measurement methods used to describe economic spatial relationships.

The study of assessing the existing economic foundations of the selected city is an inevitable necessity to indicate the economic base on which it is based and the reflection of the factors and variables they enjoy in its urban environment, and accordingly, the study begins to analyze the economic basis of the city of Samarra and indicate its economic potential and the factors affecting the urban environment both to provide important statistical indicators in the planning fields related to urban development, which helps decision makers in understanding the urban reality and developing urban plans and policies according to the available potentials that can be built and planned on, which can contribute to the development of the urban environment in Samarra.

This section of the research aims to give an understanding of how to choose the quantitative methods used in measuring spatial relationships, which we summarize as follows- :

-The research relied on the analytical dimensions of each model or method and its possible tasks in the subject of measurement .

-The adoption of the evolutionary approach based on the possibility of solving the issues related to the research issue, starting from simple methods to alternative programs with more ambitious proofs and in accordance with the type of orientation planned in the study .

-More importantly, the selection of all methods from simple to complex will be based on the principle of methodological integration based on the overlap of the inputs and outputs of these methods, making it a kind of scientific development based on the logical sequence in understanding the research issue .

It should be noted that the adoption of modeling came through reliance on it to describe the existing situation and an attempt to approximate the apparent complexity to the close language of mathematical relationships through the sequence from those simple models to more complex programs to infer and reach a state of real reality and that the choice follows those methods that help in the possibility of exploring what happens in the future (Lee, Colin, 1959, p21).

On this basis, the study's choice of quantitative methods will be subject to these assumptions and in order to achieve a logical understanding of the mechanism of interaction in the spatial economy, from implicit analysis methods (within the city), to those that investigate the relationships between the city and the regions.

1.1 .Macro-analytical methods adopted in measuring spatial economic relations.

In this part of the study, we try to shed light on a number of quantitative methods and models that explain spatial relations within regions or between regions, as the study's treatment of these methods is based on the principle of sequentiality and the degree of comprehensiveness and consistency of the model's work through the scope of its impact, its measured criteria and the degree of association with the next method, as well as the extent to which it achieves the subject of calculating spatial economic relations partially or completely, and on this basis these methods can be divided into (Mahmoud, 2011, p. 50)- :

-The first type: The Assumption Method.

-The second type: Location Quotient (Location Quotient - LQ) method.

From this division, going in a stronger direction to apply these methods and overcome their limitations requires exposure to their meaning and corresponding developments before embarking on applying them or part of them according to the foundations and hypotheses of the research, and the following is an analysis of the most prominent methods according to each type :

1.1.1 .The Assumption Method.

The Assumption Method is the simplest, fastest and least expensive method. It is widely believed that the agriculture, mining, manufacturing, financial, and real estate sectors are completely core, and therefore completely dependent on factors outside the city limits, while all other remaining activities, especially utilities, services, and commercial activities, are assumed to be non-core, dependent only on local economic conditions, while all other remaining activities are assumed to be non-core.

Through these assumptions, the total basic labor force can be shown and non-basic employment can be estimated for the city of Samarra, from Table 1, it is clear that the number of workers in the basic economic activity (Basic Economic) for the city of Samarra has reached about (13,723) workers for the year 2023, which constitutes 58.7% of the total economic workers in the study area, while the remaining number, which is about (9646) workers in what is known as non-basic economic activity for the city and its region, and thus constitutes 41.3% of the total economic workers in it. From here, the utilization coefficient (NB/B) can be extracted) according to the following equation:

Thus, the economic base ratio for the study area =

$$\frac{\text{Number of people employed in Samarra's main economic activity}}{\text{Number of people working in Samarra's non-core economy}}$$

The output of this relationship (economic base ratio) shows that every basic job opportunity creates a non-basic job opportunity, which means that the basic economic activities in the city are weak, which calls for a reconsideration of the economic structure of the city, if we know that the growth and development of the city depends mainly on the basic activities in the city, because it is the one that creates income for the city from outside, considering that a large part of the products of the basic activities are exported abroad and returned in the form of income, and thus increase the returns of production factors (salaries, wages, commercial operations, rent), which directly reflects the level of economic activity in the city and vice versa.

Thus, the economic base multiplier is (1/6), which means that every one basic job within the city and its region supports 6 non-basic jobs, in other words, as the number of members of the basic labor force increases, the number of non-basic labor members increases by two times.

Despite the increase in the number of workers in the basic and non-core sectors in the city, the economic reality of the city was not affected and thus did not affect the growth and development of the city because most of the income flows are internal flows spent on consumption aspects, which

requires focusing on developing the city's income by increasing the capital invested in the basic activities sector because this increase in the invested capital leads to an increase in the volume of production and thus the volume of exports to result in increasing the city's income, because basic economic activities have the main role in economic changes within the city.
This shows that very few industry sectors can be clearly categorized as core or non-core, and that the assumption method itself is of limited use in dividing a region's economy into core and non-core activities. However, one useful application of the assumption method is to combine it with the survey method or, as we will see later, with the location quotient method. Identifying layers that represent clear core activities (such as tourism, hotels and accommodation) or non-core activities (such as local government and cinemas) can significantly reduce the amount of survey work. Furthermore, in-depth knowledge of the region's businesses and commercial establishments can improve the accuracy of the assumption method.

Table) 1(Results of applying the hypothesis and estimation method to the labor force data for the city of Samarra for the period (2009-2023)

no	Economic activities	Non-essential labor force	Core workforce	hypothesis	Number of employees
1	Agriculture		57	essential	57
2	Industry		5,342	essential	5,342
3	commerce		8,324	essential	8,324
4	Finance and Real Estate	275		unessential	275
5	education	3005		unessential	3005
6	health	1301		unessential	1301
7	Other services	1,746		unessential	1,746
8	Other	3,319		unessential	3,319
9	Total labor force	9,646	13,723		23,369

Source: Republic of Iraq, Ministry of Planning and Development Cooperation, Central Statistical Organization and Information Technology, Salah al-Din Governorate Statistics Department , Census and Numbering Results The number of establishments in the governorate according to the environment, number of workers , type of economic activity , and at the level of administrative .And the field study .units for the year 2009, Table 3, pp. 436-456

1-1-2. Location Quotient (LQ).
Despite the ease of applying the hypothesis and estimation method to measure the economic base of the city, the difficulty of determining whether the activity is export or domestic, etc. is one of the disadvantages facing this method, which calls for saying that the hypothesis and estimation method to measure the economic base suffers from the lack of reliability in the various data, which requires the use of other methods and methods that rely on official data issued by government institutions in Samarra.
This necessitated the use of the Location Quotient (LQ) method, which is one of the most common and widely used economic base analysis techniques. It is a statistical tool used in geo-economic analysis to determine the degree of specialization of a particular region or city in an economic activity compared to a reference area, usually the country as a whole or the governorate (Mahmoud, op. cit., p. 54).
The use of this method is a research result on the set of reasons affecting the growth of an activity within a spatial space than others and what are those economic factors causing this growth, and therefore the basic idea from which the concept is based is related to the main degree in the scope of circulation of service or production affecting the growth of economic activities within the region and according to that characteristic, the concept addressed the clarification of two types of economic activities existing in the spatial space, namely (Al-Omar, 2005, p. 37): -

- Activities that are related to the movement of growth and development in the place and its relationship with the external scope, which are called basic activities such as the industrial sector (especially the productive industries).
- Supporting activities are those activities that contribute to sustaining and developing the work of the main activities and their scope of work is limited within the internal scope of the spatial space, such as the services sector.

These divisions came through a series of researches, whether by late or advanced researchers, they expressed the common denominator of the basic idea of the Location Quotient (LQ) concept, which aims to achieve (Jamaludin, 2013, p3): -

- Identify the main occupations or industries (economic base) on which the city depends for its growth.
- Revealing the economic specialization of the city compared to the national or regional level.
- Helping planners and decision makers in directing investments and developing economic policies.

The usefulness and relevance of the results of analyzing the economic base through the Location Quotient (LQ) method and its analytical tools and techniques depend heavily on factors such as the choice of the size of the study area, the reference area chosen for comparison, and the units of measurement or economic indicators chosen, as the LQ method in analyzing the economic base depends on the use of a reference area for comparison. The reference area is also widely used to determine the level of basic activities. Therefore, the choice and size of reference areas play an important role in the size of the economic base multiplier and other results of economic base analyses, as the choice of study area plays a crucial role in terms of the availability of useful data and the interpretation of the results of the economic base analysis. Typically, government departments provide economic and social data at different geographic levels.

In Iraq, data are provided at the national, governorate, district, and subdistrict levels. The Ministry of Planning provides data on population and housing characteristics by statistical area and population group, as well as economic data published by the Ministry of Planning's Economic Census. In defining the study area of Samarra and Balad, attention was paid to the availability of data at the urban level so that the results would be more applicable when accompanied by additional knowledge of the larger economic area, as smaller study areas generally have smaller economies and tend to specialize in fewer products than larger areas (Wang and Hofe, 2007, p144).

Before deciding on a reference area, pay close attention to the purpose of the study. Does it make sense to compare small cities like Samarra to the country, or is it better to compare them at the governorate level? In practice, smaller areas, such as cities, are often compared to larger areas, such as the governorates to which they belong. It is important to realize that each reference area has its own structural economic structure, strengths and weaknesses (Mahmoud, op. cit., p. 55). Since the selected city in the study is a medium to small city at the level of the country as a whole, the study will be limited to comparing it at the level of the governorate to which it belongs using the Location Quotient (LQ) method, by comparing the economic activities of the selected cities to the economic activities of the governorate of Salahuddin, we may reach different conclusions than those we reach when comparing at the level of the country, which is more accurate and statistical results.

Although labor force is the most common measure of economic activity, income and earnings data are also frequently used. The direct interrogation method described earlier analyzes the economic base of cities using field study data, where the sector is assumed to be core or non-core based on the volume of sales between home and abroad, while the location quotient method allows economic activities to be divided into core and non-core based on labor force data for economic composition. The Location Quotient (LQ) method compares Samarra city's share of an industry's labor force to the province's share of that industry's labor force. Using the labor force as an example, the location coefficient compares industry i to the share of the labor force at the governorate level in industry i, and the method of calculating the location coefficient (LQ): mathematical according to the following equation (Al-Omar, previous source, p. 37):

$$\boldsymbol{LQ} = \left(\frac{\boldsymbol{Ei/Et}}{\boldsymbol{Eni/Ent}}\right)$$

where:

- = $E\,i$ Number of workers in the sector i In the studied area.
- = $E\,t$ Total number of workers in all sectors in the studied area .
- = $E\,ni$ Number of workers in the sector i At the governorate level.
- = $E\,nt$ Total number of workers in all sectors at the governorate level.

Table (2) Interpreting the results for the location coefficient method.(Location Quotient - LQ)

(LQ) value	Interpretation	Economic significance
> 1	The sector is more concentrated in the region .than the national average	It means that the sector is more concentrated in the city compared to the national or regional (provincial) level , i.e. the city specializes in this activity which means that it is a . primary (potential for export) sector
= 1	The sector has the same .level of national focus	This means that the level of concentration in the city is equal to the national level (province), i.e. (there is no clear (specialization
< 1	The sector is less concentrated than the .national average	This means that the sector is less important in the city compared to the province , and is often a non-essential .sector (serving only local needs)

Source: Jamal Aimi Jamaludin, Location Quotient, Lecture note and tutorial for Location Quotient (LQ) analysis from Method of Planning Analysis subject, 2013, p3.

Applying the statistical formula for the location coefficient (LQ), on the data of the labor force in Samarra city and comparing it with Salahuddin Governorate, the results shown in Table 3, where the results of the location coefficient (LQ) for 2023 show that the location advantage for industrial, commercial and educational activities in Samarra city is highly concentrated, where the location coefficient (LQ) reached about (2.46, 1.15 and 1.10) respectively. (1<LQ) means that the local economy has a larger labor force in these economic activities than the regional level (governorate), and production in these activities is greater than the local need or demand, and this indicates that there is specialization in these economic activities in this city, and there is a possibility of export.
On the other hand, the city of Samarra is still far from achieving self-sufficiency in other economic activities (agriculture, finance and real estate, health, other services, other activities), as the results of the location coefficient (LQ) for these economic activities were less than one (1>LQ). This means that the local economy has a lower labor force in these economic activities than the governorate level, and that production in these activities does not cover the local need and there is a need for imports.
Based on the results of the Location Quotient (LQ), it is possible to identify the core and non-core activities of Samarra city, where industrial, commercial, and education activities with an LQ value greater than 1.00 are the core economic sectors that depend on exports, while agriculture, finance and real estate, health, services, and other activities are considered non-core sectors.

Table) 3(Results of the (LQ) method , on the labor force data for the city of Samarra for the period (2009-2023)

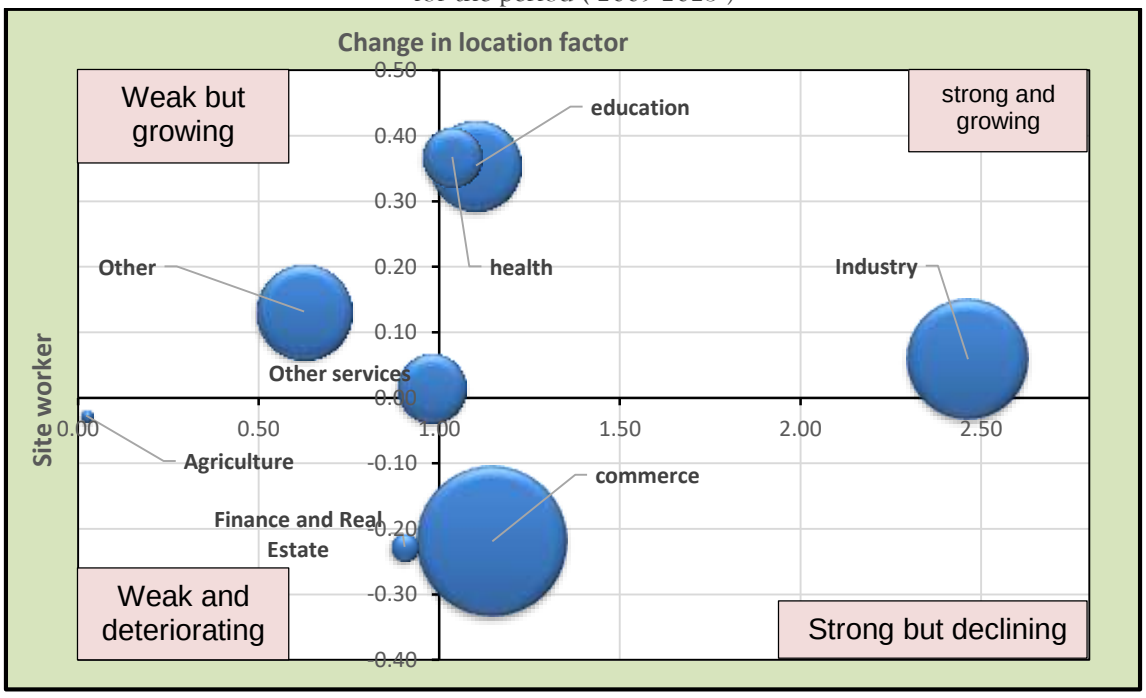
rate of change (2023-2009)	Site Feature 2023	Site Feature 2009	Samarra city		Governorate		Economic activities	
			2023	2009	2023	2009		
0.03-	0.02	0.05	57	103	23,301	18,832	Agriculture	1
0.06	2.46	2.41	5,342	4,948	19,706	18,583	Industry	2
0.22-	1.15	1.37	8,324	6,689	65,985	44,236	commerce	3
0.23-	0.90	1.13	275	244	2,765	1,948	Finance and Real Estate	4
0.35	1.10	0.75	3005	1980	24797	23948	education	5

0.37	1.04	0.67	1301	550	11418	7436	health	6
0.01	0.98	0.96	1,746	1,312	16,215	12,293	Other services	7
0.13	0.63	0.49	3,319	1,694	48,229	30,984	Other	8
			23,369	17,520	212,416	158,260	Total labor force	9

Source: Republic of Iraq, Ministry of Planning and Development Cooperation, Central Statistical Organization and Information Technology, Salah al-Din Governorate Statistics Department , Census and Numbering Results The number of establishments in the governorate according to the environment, number of workers , type of economic activity , and at the level of administrative .And the field study .units for the year 2009, Table 3, pp. 436-456

It should be noted that there is another way to use this criterion by economic decision makers by looking at the changes in the Location Quotient (LQ), over a certain period of time, as the annual change in the LQ can provide information about the increase or decrease in an industry and its relative importance in a region or region in relation to other regions or regions. The change in the annual rate of economic events (2009) and the annual rate of economic events (2023) are calculated. For each economic sector, the differences in the value of the annual rate for the period (2009-2023) are then calculated, where a negative value indicates a negative growth of economic activity, while a positive value indicates a positive growth for the two sectors concerned. By applying the change calculation for the location quotient (LQ) for the city of Samarra based on the data in Table 3, a figure was constructed for the city of Samarra to determine the groups whether the economic activities are strong and growing, strong but declining, weak but growing, or weak and declining.
The results of Figure (1) to identify the clusters in Samarra city show that the industry, education and health sectors are strong and growing in the future, the trade sector is strong but declining, the services sector and other activities are weak but growing, and the agriculture sector and the financial and real estate activities in the city are weak and continuing to decline from 2009 to 2023, and are expected to continue to decline.

Figure) 1 (Annual change of site coefficient (LQ) for the economic sectors in the city of Samarra for the period (2009-2023)



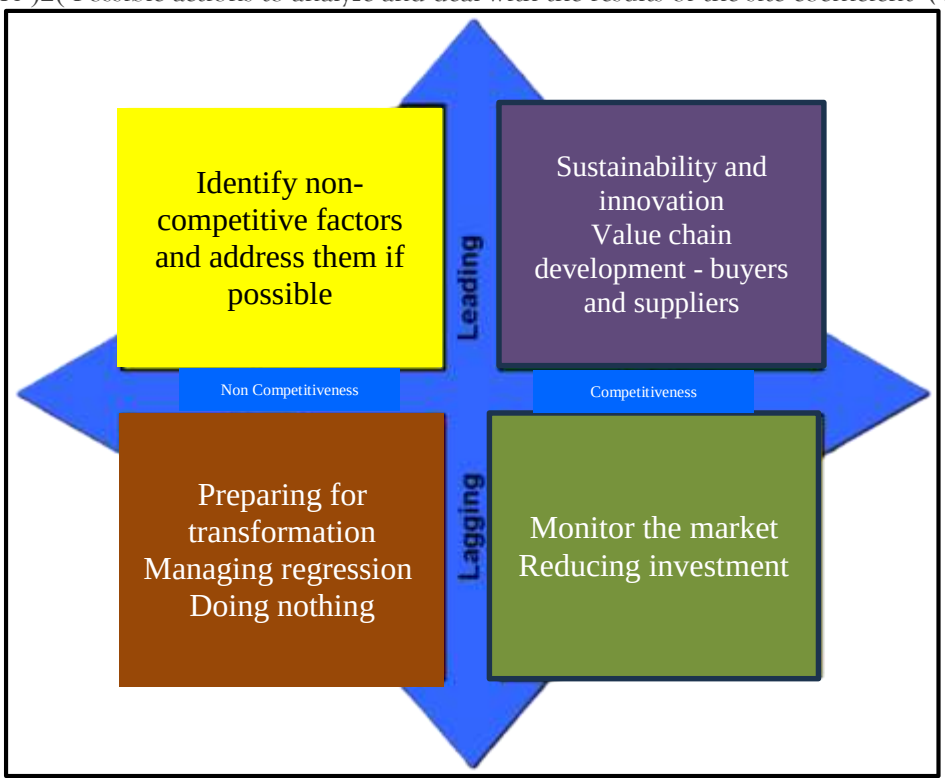
Source: The researcher based on the data of Table No. (44) and the outputs of the Excel program

It is clear from Figure 2 that this method provides a good analytical tool to understand the nature of local and regional economic sectors because each of them needs attention and development method

different from the other, as the region should focus on large industries because the loss of this industry will cause an issue. The location advantage when it is large shows the importance of the industry to the city or region, and also the sectors that have a small location advantage criterion and at the same time are growing and increasing, they require future attention and should be given more attention, and for sectors that are declining, the reasons for this decline can be studied and appropriate programs and policies can be put in place. Finally, the small and declining sectors do not require any attention from the local economy due to their limited potential.

From the above, it is clear that the Location Quotient (LQ) method is a useful tool for analyzing the economic structure of cities and identifying their basic sectors, but it has limited benefits and possibilities in use that seem relative and have purely statistical dimensions without giving logical explanations about the pattern and reason for this concentration of economic sectors in Samarra city, but it is a complementary and related method to the inputs of some subsequent statistical models for analyzing the economic base such as (transformation and participation analysis) for a deeper understanding of the economic base of the city..

Figure)2(Possible actions to analyze and deal with the results of the site coefficient (LQ)



Source: Jamal Aimi Jamaludin , Location Quotient, Lecture note and tutorial for Location Quotient (LQ) analysis from Method of Planning Analysis subject, 2013, p3 .

1-2 .The interaction of the economic base with the urban environment and its reflection on the dimensions of development and urban forecasting .

The interaction between the economic base and the urban environment is a dynamic and complex process that shapes the dimensions of development and urban forecasting, as cities are greatly influenced by the economic activities and events that take place in them, which in turn reshape the urban space and affect the quality of urban life, future planning, and the ability of cities to adapt to economic and environmental changes. Therefore, this section aims to analyze the interrelationship between the economic base and the urban environment, the impact of each on the other, the challenges resulting from this interaction, as well as strategies for balancing economic growth and urban sustainability by studying the dimensions of the economic base, namely development and urban forecasting.

1.2.1 .The interaction of the economic base with Samarra's urban environment.

The economic base of a city forms the core of its identity and function. The economic base of a city directly and indirectly affects its urban environment, as this interaction creates complex dynamics between economic growth on the one hand and urban, social, and environmental changes on the other. This impact can be positive, such as improving infrastructure and creating job opportunities, or negative, such as pollution and sprawl, as there is an interactive relationship between the economic base and the urban environment, as each affects the other significantly, as the more diverse and flexible the base is, the greater the city's ability to adapt to economic and environmental changes. The interaction between the economic base and the urban environment of the selected cities includes the following- :

-Urbanization: Economic growth attracts people to cities, which leads to increased demand for housing and causes horizontal or vertical expansion of the city, and this unplanned expansion may lead to urban sprawl on agricultural land and green spaces, and exacerbate traffic congestion and pollution issues. Samarra has witnessed rapid urban growth, especially after 2003, at the expense of the agricultural lands surrounding the city .Shaping the urban fabric: Economic activities affect land use and building patterns. It leads to a change in land use in the city to meet the needs of economic activities, as residential areas are transformed into commercial or industrial areas, leading to a deterioration in the quality of life in some neighborhoods and increasing social inequalities.

-Infrastructure and services: A well-developed economic base requires strong infrastructure (roads, public transportation, communication networks, energy). Economic expansion stimulates investment in these infrastructures, which improves the quality of life and enhances the attractiveness of the city. Rapid economic growth also plays a negative role in a city if it exceeds its ability to provide adequate services, leading to infrastructure issues, especially in terms of traffic and water shortages .

-Employment and population: The economic base directly affects employment opportunities, and therefore the patterns of internal and external migration in search of job opportunities. Cities with strong economies attract talent and labor, leading to population growth and demographic diversity, changing the demographics of the city, increasing the gap between rich and poor neighborhoods, and reducing the efficiency of the workforce .

-The real estate market: Land values and rents are closely linked to economic activity; booming economies can lead to higher real estate prices, which can affect housing affordability and challenge social diversity in some areas of the city .

-Consumption and waste: Economic activities lead to an increase in production and consumption, generating greater amounts of waste and impacting natural resources. This excessive consumption leads to resource scarcity and increased pressure on the urban environment, requiring cities to develop effective waste management systems and promote sustainability.

1.2.2 .Dimensions of Samarra's economic base (development and forecasting).

The economic foundation of Samarra is the cornerstone of understanding its current dynamics and future trends. The development dimension of the economic foundation focuses on how the basic economic activities identified according to statistical methods contribute to the growth of cities, job creation, standard of living, and their overall development, as this dimension includes analyzing:

1-2-2-1. Drivers of economic growth.

Identifying industries and sectors that bring wealth from outside the city, by applying the statistical equation for the location coefficient (LQ), on the labor force data in the city of Samarra shows us the engines of economic growth for the city when the location advantage criterion is greater than one (1<LQ), which means that the local economy has a labor force in these economic activities greater than the regional level (province), and that production in these activities is greater than the local need or demand, and this indicates the existence of specialization in these economic activities in this city, and there is the possibility of export. The results of the location coefficient (LQ) for the year (2023) for the city of Samarra show that the engines of economic growth are for industrial, commercial and educational activities, as the location advantage is greater than one (1<LQ), where the location coefficient (LQ) reached about (2. 46, 1.15, 1.15, 1. 46, 1.15, and 1.10, respectively. Other sectors enjoyed by the city of Samarra, such as the agricultural sector (especially the production of grains and vegetables), can be supported by making the city a warehouse for collecting agricultural production from the surrounding region and exporting it to other regions, which would be a major source of income, as well as supporting the religious and archaeological tourism sector, as increased

spending by visitors and tourists on religious holy sites plays an increasing role in stimulating the local economy of the city.

1.2.2.2. Economic specialization and competitive advantage using SWOT.

The second step is to study the development dimension of Samarra by analyzing the competitive advantage using SWOT analysis. SWOT analysis is defined as the method by which the internal strengths and weaknesses of the region (city) and the opportunities and threats to which the region (city) is exposed are monitored and analyzed, in order to reach the strategy that represents the best match between them (Hassan, Al-Omar, 2017, p. 150).

The SWOT analysis identifies the competitive advantages of the selected cities, represented by those local economic activities that make them distinctive in national and regional economies, compared to the internal or external factors that may prevent the city from realizing its potential. Identifying and analyzing what a city already possesses that can be better leveraged to build capacity for urban growth, including natural potential, historical, cultural, economic and physical assets, is critical to developing a strategic direction and implementation plan to enhance the vitality of the regional economy (Al-Quraishi, 2009, p. 92).

In order to apply the structure of the SWOT analysis in the city of Samarra to examine the obstacles and results that we come out of it to an acceptable economic level, and after the study and access through field study, interviews and statistical means of the researcher, the study came out with some weaknesses, strengths, opportunities and threats to the economic reality in the city of Samarra, as shown in Table (4).

Table) 4(

For the economic base in the city of Samarra , based on the available capabilities SWOT analysis

Weaknesses	Strengths
• **Lack of economic diversification:** Limited reliance on other sectors makes the city vulnerable to shocks in the industrial and . services sectors • **Damaged or inadequate infrastructure:** Lack of some basic services and infrastructure needed to support large-scale .industrial and tourism development • **Limited investments:** It faces difficulties in .attracting large investments in new sectors • **Heavy economic dependence on industry and services :** makes the economy sensitive to security and political fluctuations that . affect the country • **High unemployment:** especially among .young people • **Ongoing security challenges:** The security situation remains relatively fragile, negatively impacting tourism and .investments • **Impact of previous conflicts:** The city still suffers from the effects of wars and conflicts that have affected its infrastructure and .economy	• **Relatively strategic location:** It lies on the road between Baghdad and Mosul, which gives it some logistical and commercial .advantages • **An important religious site:** It houses the shrine of the two Imams, al-Askari (peace be upon them), making it a center for visitors from inside and outside Iraq, and generating economic activity linked to .religious tourism • **Historical and cultural heritage:** It was the capital of the Abbasid Caliphate and has important archaeological sites such as the Malwiya Mosque, which gives it the potential to develop historical and cultural .tourism (UNESCO World Heritage Site) • **Potential for developing tourism infrastructure:** There is potential to develop hotels, restaurants, and other .services to meet the needs of visitors • **The presence of some local industries:** There are some small and medium industries, especially in the food and .handicraft industries • **Fertile agricultural lands:** Located on the banks of the Tigris River, it has agricultural lands that can support a diverse production of crops , which supports commercial .activity there
Threats	**Opportunities**
• **Deteriorating security conditions:** Any deterioration in the security situation could	• **Increased numbers of religious visitors:** As the relative security situation improves,

lead to a sharp decline in visitor numbers and a decline in economic activity.	the number of religious visitors could increase, boosting the local economy.
• **Agricultural commodity price fluctuations:** Low crop prices can affect farmers' income and the local commercial economy.	• **Developing historical and cultural tourism:** utilizing archaeological and historical sites to attract a different type of tourist.
• **Delayed reconstruction and development projects:** Failure to implement planned projects can hinder economic growth.	• **Investment in agricultural and food industries:** Developing agricultural processing industries to benefit from local production.
• **Competition from other religious and tourist cities:** It faces competition from other cities that attract visitors and tourists.	• **Supporting small and medium enterprises:** encouraging entrepreneurship and diversifying sources of income.
• **Emigration of educated youth:** The continued migration of young people in search of better opportunities in other cities could lead to a loss of skilled workers.	• **Taking advantage of its location on the trade route:** developing logistics and trade services.
• **Political interventions and regional conflicts:** Regional political situations can affect economic and security stability.	• **Obtaining government support and international aid:** Reconstruction and development efforts can contribute to improving the economic situation.
	• **Investing in renewable energy:** exploiting available land to develop solar energy projects.

1-2-2-3. Economic diversity.

In this step, the extent of the diversity of Samarra's economic base is assessed according to the statistical results obtained previously. It was found that Samarra suffers from a lack of economic diversity, as a large part of its economy depends on industrial activity and service sectors, as well as religious tourism and traditional agricultural trade. This could make this economy vulnerable to natural and economic fluctuations such as an economic crisis, decreasing numbers of visitors, or changing climatic conditions, thus affecting its economic foundation.

1.2.2.4. Sectoral linkages and economic clusters.

This stage represents the fruit of the real interaction between the economic base and the urban economy, as understanding the relationships between the different economic sectors within the city leads to the creation of development opportunities that promote linkages between each other in order to achieve the desired economic diversity and protect the city from the risk of natural and economic fluctuations. In the city of Samarra, links between religious sites and local commercial activities can be strengthened.

1.2.2.5. Infrastructure development.

Assess the adequacy of infrastructure and develop and maintain transportation, communication, water, sewage, and energy networks in environmentally friendly and efficient ways to support economic growth. Samarra needs to develop infrastructure for transportation routes connecting to other cities, and power and water networks to support any future development.

The development of telecommunications and internet infrastructure is also necessary to attract modern investments.

1.2.2.6. Developing human capital.

Human capital development is necessary to support development by analyzing the skills and qualifications of the workforce and the capabilities of individuals in the selected city, which increases their productivity and contributes to economic and social growth. This is done by investing in vocational training programs in Samarra City to develop residents' skills in areas such as hospitality management and hospitality for tourists in Samarra City, which can enhance their ability to take advantage of new job opportunities.

1.2.2.7. Quality of life and attractiveness.

The quality of urban life and spatial attractiveness of a city is important to support inclusive development, as it contributes to improving the well-being of residents, promoting investment, and facilitating the achievement of environmental, social and economic goals by recognizing that the quality of urban life that Samarra city can enjoy can attract residents, through improving public

services (education, health), providing green spaces, and promoting security and stability are all important factors to make the two cities more attractive to live and work.

1.2.3. Integrating the dimensions of development to achieve the overall framework of the urban planning model.

Understanding the current economic basis of both cities (developmental) helps in building future projections (predictive). This is because the developmental and predictive dimensions of the economic foundation are closely interconnected. Understanding the current economic foundation (the developmental dimension) is necessary to build accurate future projections (the predictive dimension). Similarly, future projections help guide economic development strategies to promote promising industries and mitigate potential risks. Having analyzed the economic foundation of Samarra through the developmental and predictive dimensions, we can provide valuable insights to local decision-makers on how to promote sustainable economic growth and diversify sources of income under the conditions and challenges specific to each city, and these insights and strategies are as follows:

1. Urban and spatial dimension Objective: Develop sustainable infrastructure, improved mobility, and orderly urban planning.

Projects and initiatives	Proposed development opportunities	The city
• Updating the city's master plan with a focus on managed growth • Improving the internal road network and creating parking lots. • Development of public transportation (minibuses, organized taxis). • Implementation of street lighting and facade beautification projects.	• Integrated Urban Planning: A Vision for Developing the City While Preserving Its Identity • Improving transport infrastructure: developing roads and public transport . • Rehabilitation of historic areas: restoration of buildings and planning of pedestrian paths.	Samarra

2. The economic dimension Objective: To promote sustainable and diversified economic development and create job opportunities

Projects and initiatives	Proposed development opportunities	The city
• Modernization of agriculture: transition to modern agriculture, .agricultural industrialization • Logistics and trade services: exploiting its location on the .international road as a logistics hub • Manufacturing industries: Encouraging industries that depend .on agricultural products	• Integrated religious and cultural tourism: developing logistical and tourism services, linking archaeological .sites with modern ones • Small and medium-sized industries: Support for heritage-related handicrafts and food industries linked to .surrounding agriculture • Knowledge Economy: Encouraging research centers related to antiquities .and heritage	Samarra

3.Social dimension Objective: To enhance quality of life, social cohesion, and provide basic .services for all

Projects and initiatives	Proposed development opportunities	The city
• Building or upgrading health centers and schools. • Establishing youth and sports centers and public libraries. • Launching programs to support affordable housing. • Organizing periodic cultural and artistic events that highlight the city's heritage.	• Developing public services: improving the quality of education and health. • Promoting youth and cultural activities: Providing spaces for youth and families • Social Housing: Providing affordable housing solutions.	Samarra

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4.Environmental dimension Objective: Conserve natural resources, reduce pollution, and build environmentally resilient cities

Projects and initiatives	Proposed development opportunities	The city
• Construction of a wastewater treatment plant. • Implementing programs to collect household waste using modern methods. • Planting trees and creating new public parks. • Using solar energy to light streets and government buildings.	• Sustainable waste management: sorting, recycling, and sanitary landfills. • Improving air and water quality: monitoring and treating pollution. • Greening and green spaces: increasing the green area.	Samarra

From the above and based on the components of the development dimension, which represent the intellectual and practical framework that guides the planning and development of cities, to ensure their sustainable growth and prosperity for all their inhabitants, we can develop a planning model for the development dimension in the city of Samarra, taking into account its specificity in terms of history, culture, resources, and challenges, as Samarra is known for its ancient Abbasid history and the presence of the two shrines of the two military imams, its location on a vital road and its agricultural and social importance. Therefore, the general framework of the planning model that relies on the four main development dimensions (economic, social, environmental, and urban) with a focus on the special features of each city and linking them to the SDGs can be developed wherever possible to apply this development dimension framework to the city of Samarra by following the stages shown in Figure 3.

Figure (3) A planning model for the development dimension applicable to the city of Samarra

.Source: - Researcher's compilation

Using this framework, Samarra can develop detailed development plans that take into account its specificity and contribute to a better future for its residents. Using this framework, it is possible to understand how the current economic foundation can be a starting point for sustainable and inclusive growth, taking into account the strengths, weaknesses, opportunities, and challenges of Samarra.

CONCLUSIONS.

Based on the descriptive and quantitative data presented, the research reached the following conclusions

1. The research revealed the existence of an imbalance in the economic structure of the city, due to the weakness of the industrial activity of export character.
2.The research revealed the economic ties that link the city to its region, which are not strong except in administrative aspects, and these do not have an impact on the city's economy and its development.
3.The research showed that the increase in basic employment will lead to an increase in non-basic activities and thus an increase in the population of the city.

Recommendations.

1.The need to focus on the industrial sector in the city and allocate industrial projects in the governorate's development plan.
2.Directing investment to enter the industrial sector based on the availability of raw materials in the region and labor in the city, as well as the market that covers the entire governorate.
3.Adopting a development plan for all cities in the governorate according to their capabilities to strengthen their economic base, especially since most cities in the governorate suffer from weak urban economies.

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