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ECONOMIC RESEARCH  
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**بوابة الشرق**  
للابحاث الاقتصادية  
ودراسات السوق

# ▶ Education and Investment IN IRAQ



**PREPARING**

The Team of Researchers  
at East Gate

**SUPERVISED BY**

Dr. Ibrahim Adeeb Ibrahim  
Senior Researcher at East Gate

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 **Education and Investment**  
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## Table of Contents

Subject	Page NO.
Table of Contents	03
Education and Investment in Iraq	04
First: Education indicators in Iraq for the period 1971-2019.	04
Second: Domestic Investment Index	06
The relative importance of the total fixed capital formation by economic activities and sector type for the year 2019:	08
Comparison of the relative importance of fixed capital formation and the relative importance of the majors admitted to higher education in Iraq for the year 2019.	10
Conclusions	13
Recommendations and suggestions	14

## Education and Investment in Iraq

Education and investment represent the main pillars of economic development, and by tracking the path of these two indicators in Iraq, it is clear the size of the missed opportunities that the country has witnessed since the beginning of the eighties of the last century and over four decades, during which the country witnessed external and internal wars that led to the depletion of its material and human resources. Between developing countries and the countries of the world is very large, an entire generation has lost the fruits of development that was supposed to move it to high levels of productivity and scientific progress, but today it lives in the lowest ranks of knowledge and economic progress, and is even less advanced and less educated than the previous generation, and this is completely contrary to economic theories of economic growth.

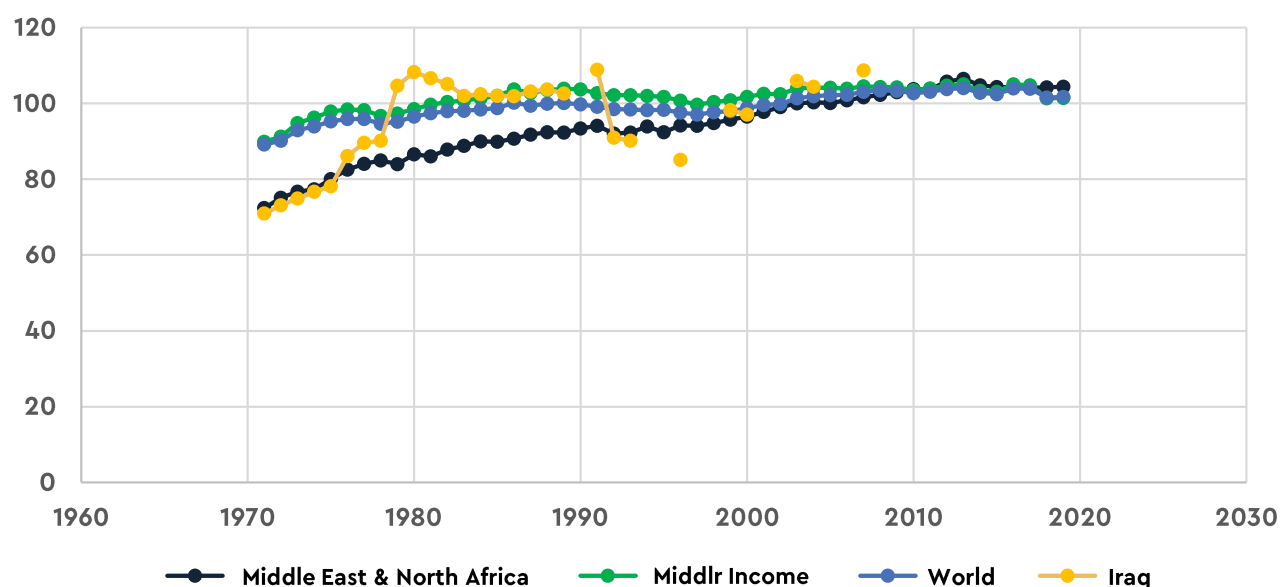
The low levels of education, especially higher education, along with the low level of political stability of the country have contributed to the decline in the average per capita material investment, who invests with an individual with low education and productivity!, and who invests under unstable and turbulent conditions! The pace of development in the country is very slow and faltering compared to the rest of the developing and developed countries, and despite the large resources achieved from oil surpluses, the country is still very far from catching up with the countries of the Middle East and North Africa as well as other countries of the world in the field of economic development, and the following is an explanation of the development of the path of education and investment in Iraq.

### First: Education indicators in Iraq for the period 1971-2019.

Iraq lacks adequate data on basic education indicators, represented by enrollment rates at different levels of education, as complete annual data are available on enrollment rates in the primary, secondary and higher education stages from 1971 to 1989, but after this period, the data are few and available for a limited number of years, which does not allow them to be used for a standard analysis to show the impact of education on local investment. Figures (1) to (3) review enrollment ratios at the primary, secondary and higher education levels of Iraq compared to groups International to which he belongs.

#### 1- Total enrolment rates in primary education:

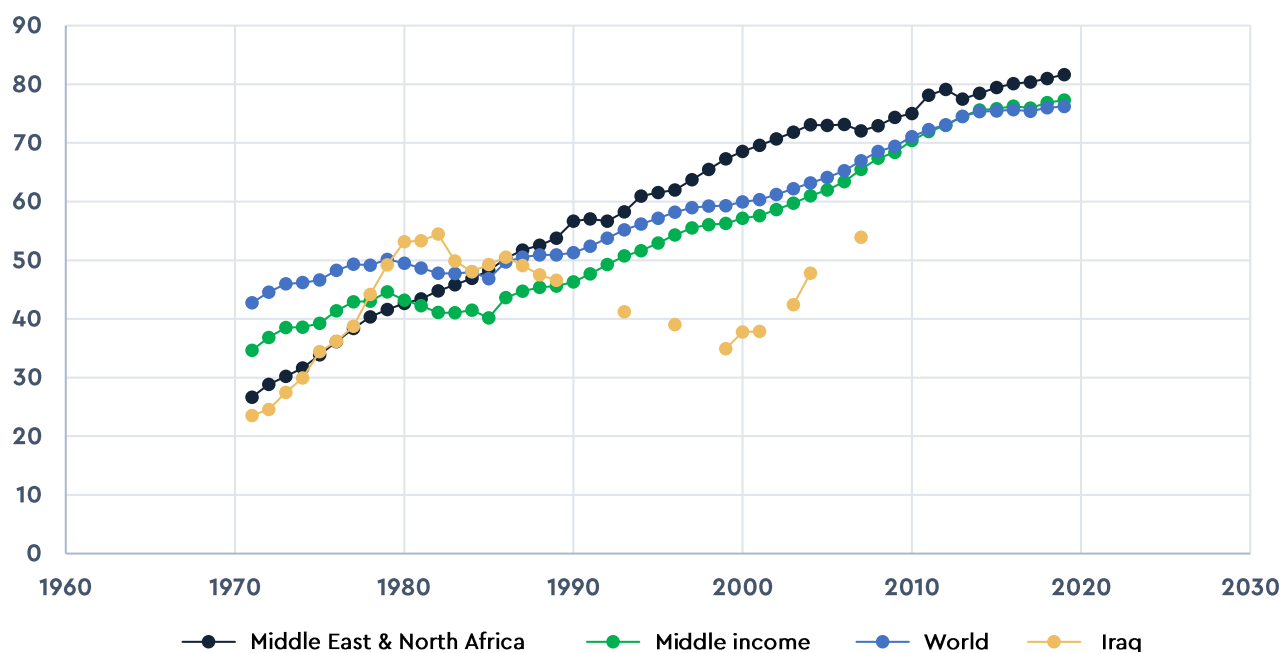
It is clear from Figure (1) that the indicators of enrollment rates in primary education since the end of the seventies of the last century revolve around 100% in Iraq and the rest of the groups to which it belongs, with a decrease from this level during the nine-ties of the last century, and this could be due to the economic conditions that individuals were living under the economic embargo that was imposed on Iraq after the invasion of Kuwait. The last statistics on enrolment rates in primary education in 2007 indicate that Iraq maintained the level of primary education at a level slightly above 100%.

**Figure(1):** Total enrolment rates in primary education

Data source: World Development Indicators WDI

## 2- Total enrolment rates in secondary education:

It is clear from Figure (2) that Iraq was able to achieve a leap in secondary education enrollment rates until it surpassed the enrollment rates in secondary education globally in 1982, approaching the rate of 55%, and then began to decline until the enrollment rate in secondary education in 1999 reached less than 35%, which is the lowest rate recorded for the rate of enrollment in secondary education, and this rate returned to rise until it reached about 54% in 2007.

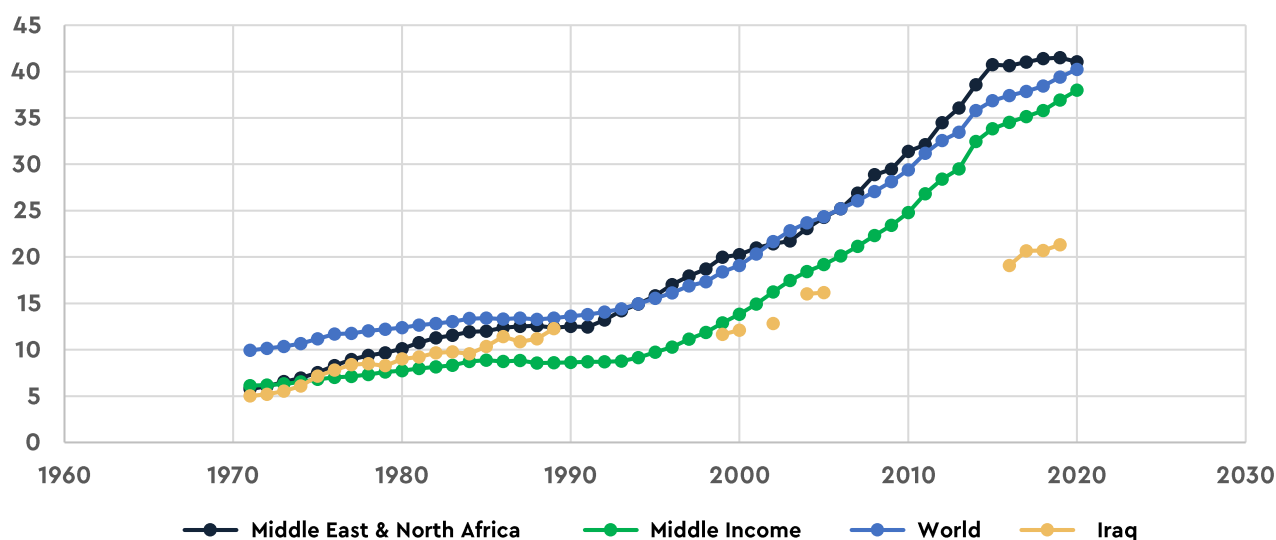
**Figure(2):** Total enrolment ratio in secondary education

Data source: World Development Indicators WDI

### 3- Total enrolment rates in secondary education:

It is clear from Figure (3) that Iraq was keeping pace with the average levels of higher education in the world and the Middle East and North Africa until 1988, but it soon declined and stopped growing until 1999, and then re-enrollment in higher education began to rise in glory, but at a slower pace than it is at the level of the world and the level of the Middle East and North Africa, which led to the widening of the higher education gap between Iraq on the one hand and the rest of the inter-national groups to which it belongs.

**Figure(3):** Total enrolment ratio in higher education



Data source<sup>1</sup>: World Development Indicators WDI

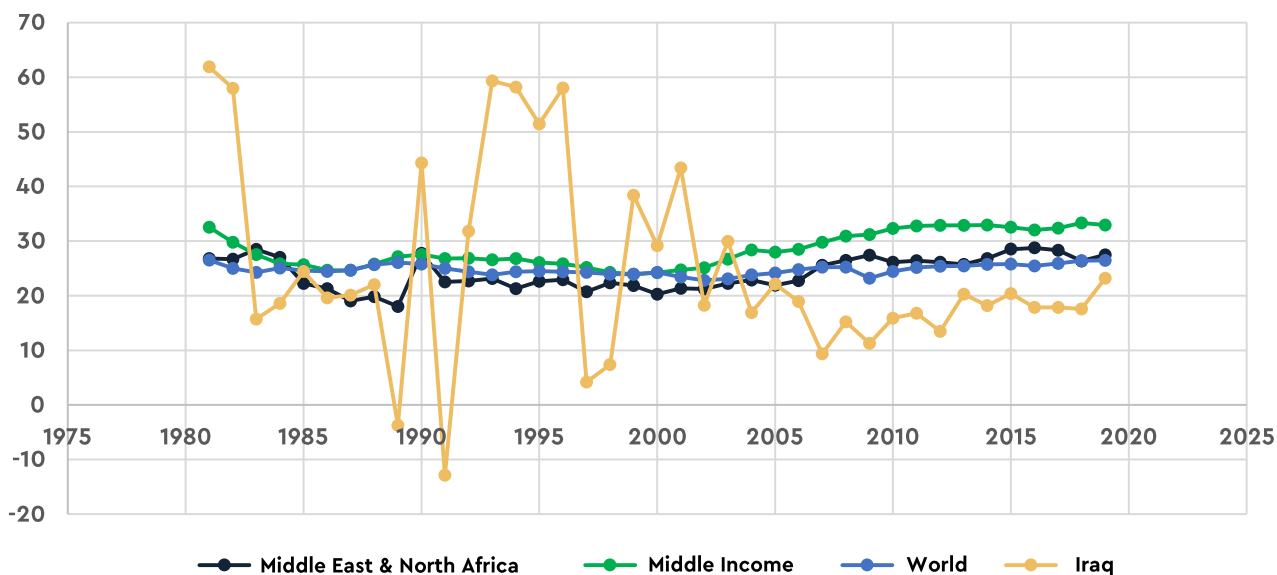
### Second: Domestic Investment Index:

Domestic investment in Iraq is characterized by extreme volatility and instability due to the political conditions that the country has witnessed since the eighties of the last century, as the capital formation index shows a great fluctuation during the period 1981 to 2019, as the index begins to decline sharply from 1980 to 1989, which is the period that witnessed a war between Iraq and Iran, and then witnesses a significant rise in 1990 to begin to decline towards the negative in 1991, the year that witnessed the second Gulf War, this index rises again During the period 1992-1996, then it declines close to zero in 1997, which is the period that followed the signing of the memorandum of understanding agreement, or what is known as the oil-for-food agreement, which led to the rise in the price of the Iraqi dinar against the dollar, then it returns to rise until 2002 and then falls again in 2003, the year that witnessed the fall of the regime and the entry of American forces, and after 2003 it rises and then decreases to range in fluctuation between 10% and 20% until 2019, where it exceeds 23%. This large fluctuation largely reflects political events in the country, and gives a great indication of the influence of politics on economic activity which may depend on other factors in influencing investment in that education variable.

In general, the average per capita total capital formation in Iraq in 1981 was higher than the global average or the average in the Middle East and North Africa, but it witnessed very severe fluctuations due to the political turmoil that the country went through. However, volatility decreased after 2003, and since 2007 average per capita capital accumulation has been rising into 2019.

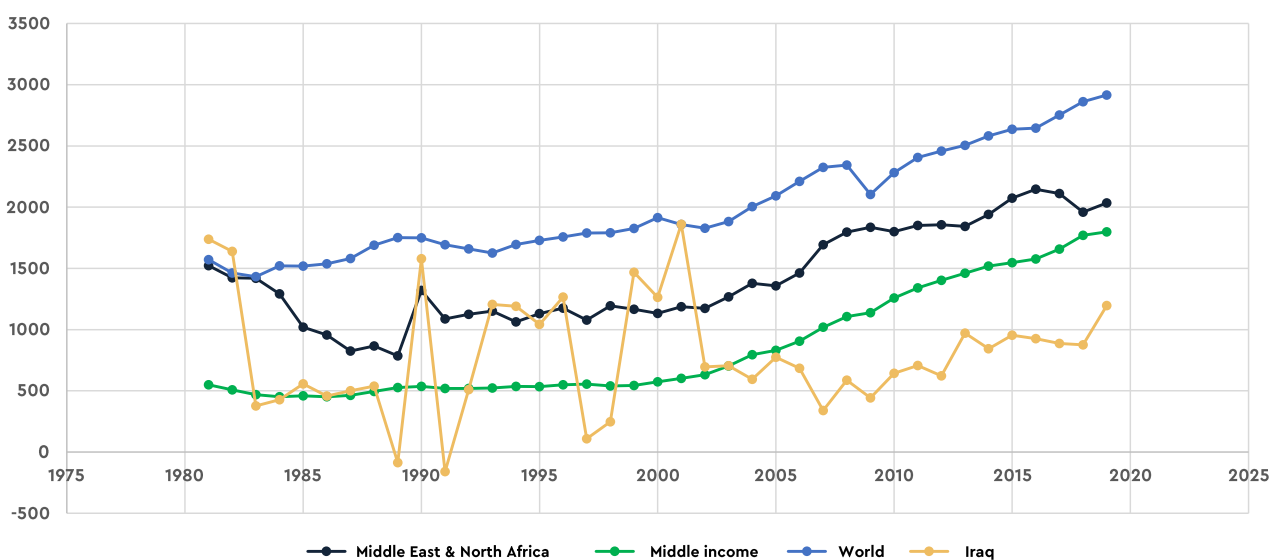
<sup>1</sup>For the years 2016-2019, data were estimated based on university and technical education reports in Iraq issued by the Ministry of Education and Scientific Research/ Department of Studies, Planning and Follow-up/ Department of Statistics, where data on the number of students participating in the final exam in preliminary university education in all universities and colleges were taken. Eligibility (except for the Kurdistan region), and they were divided by the population within the age group 20-24 for the governorates of Iraq (excluding the Kurdistan region).

**Figure(4):** Total capital formation relative to GDP



Data source: World Development Indicators WDI

**Figure(5):** Average per capita gross capital formation

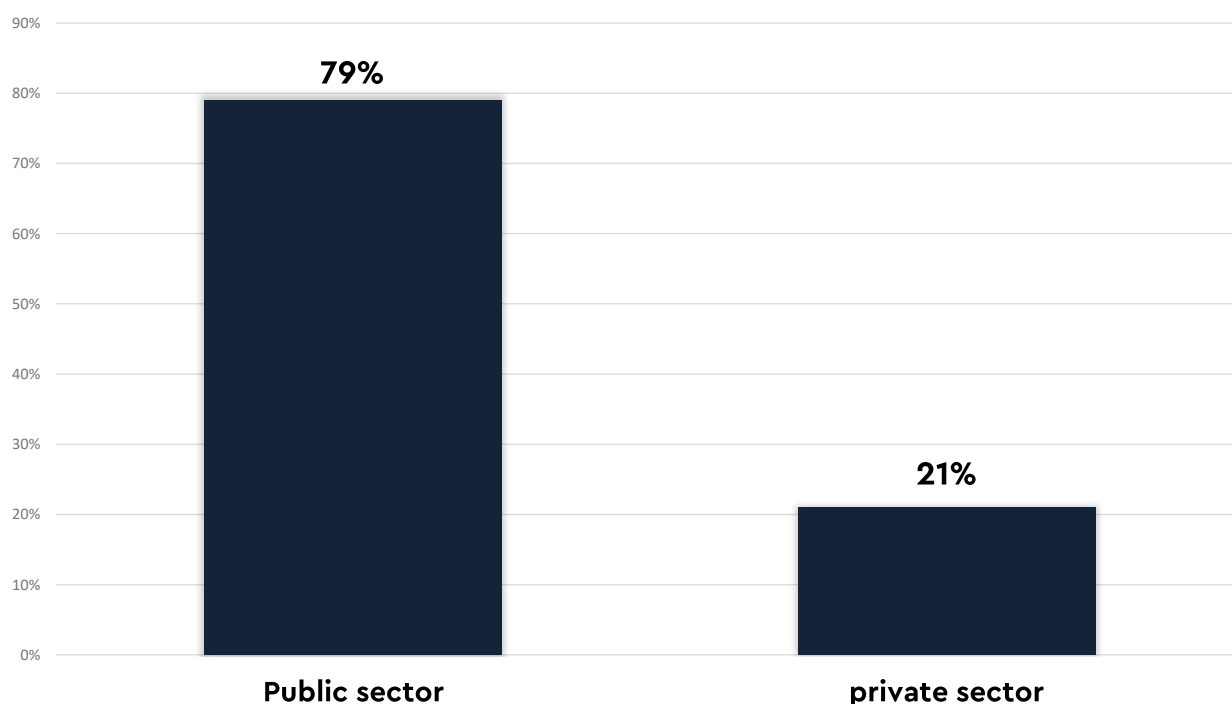


Data source: World Development Indicators WDI

## The relative importance of the total fixed capital formation by economic activities and sector type for the year 2019:

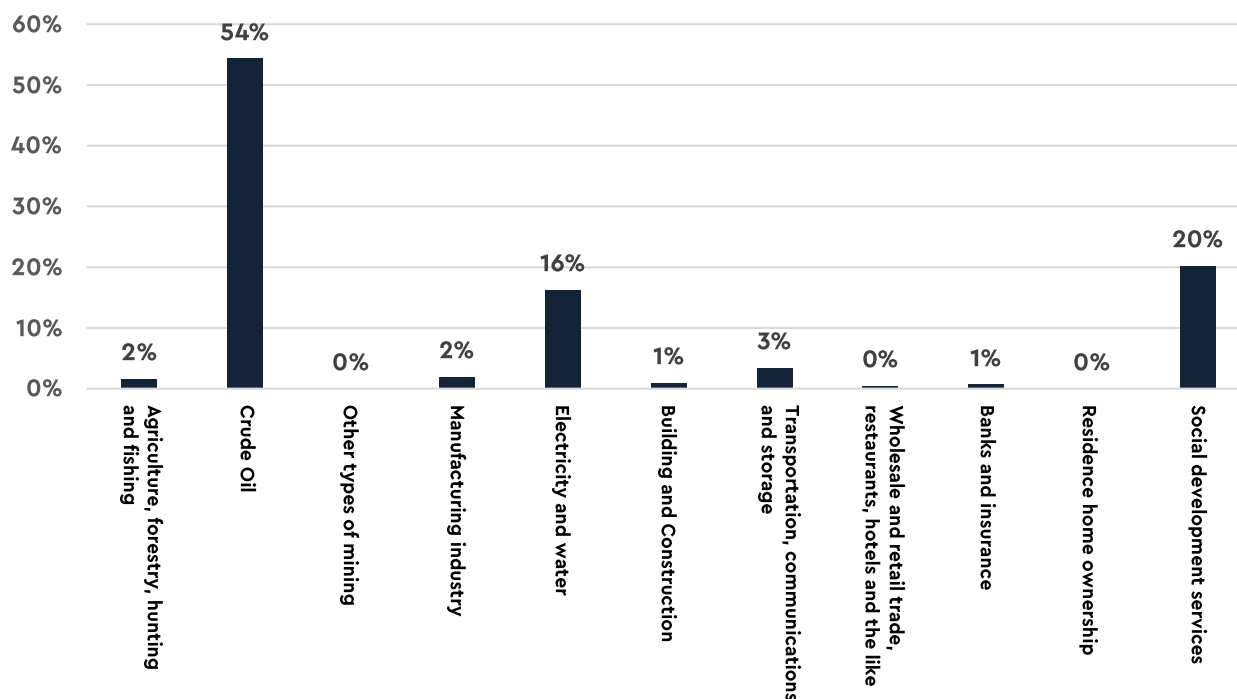
The Arab economy is characterized by a strong dependence on the public sector in the process of generating income and building capital, and this is clearly shown in the relative importance of the public sector in the process of fixed capital formation, whose contribution to fixed capital formation reached 79% in 2019 compared to 21% for the private sector, and the crude oil industry accounts for the largest share of investments in the public sector, as its share of fixed capital formation reached 54% in 2019 compared to 46% for the rest of the sectors combined. At the forefront of which is the services sector such as health, education, electricity and water services, and you can refer to Figure (7) to know the relative importance of fixed capital formation according to economic activities in the public sector, while the private sector focuses its investments in the residential ownership sector, which accounted for 51% of the fixed capital formation compared to 49% for the rest of the sectors, led by the manufacturing sector by 20%, the transport, communications and storage sector by 14%, then wholesale and retail trade, restaurants, hotels and the like by 10%. Figure 8 can be referred to for the relative importance of fixed capital formation by economic activities in the private sector.

**Figure(6):** relative importance of the total fixed capital formation by economic activities and sector type for the year 2019

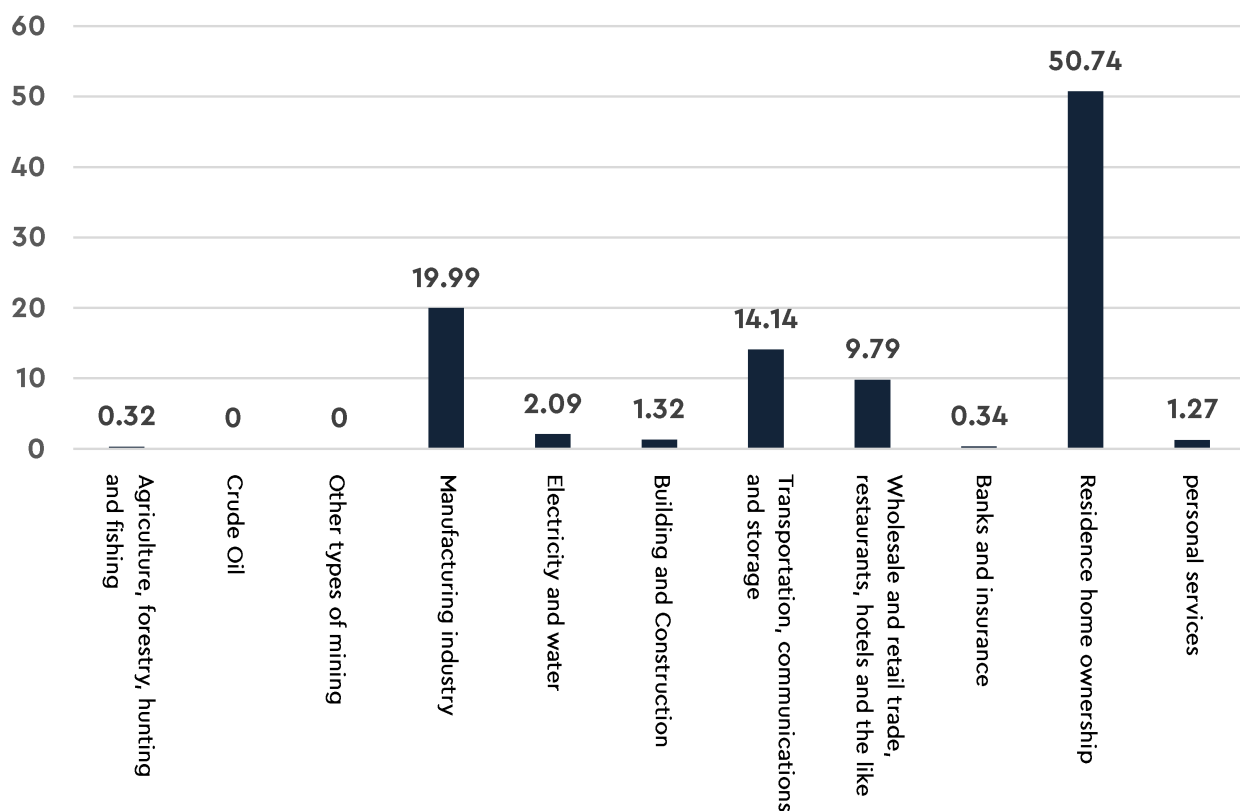


Data source: Ministry of Planning, Republic of Iraq, Central Bureau of Statistics, Actual estimates of total fixed capital formation in Iraq for the year 2019



**Figure(7):** relative importance of the total fixed capital formation by economic activities and sector type for the year 2019

Data source: Ministry of Planning, Republic of Iraq, Central Bureau of Statistics, Actual estimates of total fixed capital formation in Iraq for the year 2019

**Figure(8):** relative importance of the total fixed capital formation by economic activities and sector type for the year 2019

Data source: Ministry of Planning, Republic of Iraq, Central Bureau of Statistics, Actual estimates of total fixed capital formation in Iraq for the year 2019

## Comparison of the relative importance of fixed capital formation and the relative importance of the majors admitted to higher education in Iraq for the year 2019.

Although there is no declared policy for higher education or investment in Iraq, it is possible to identify the education policy and investment policy in Iraq by comparing the relative importance of investment areas (as representing the government's investment policy) on the one hand, and the relative importance of the majors admitted to higher education (as representing the government's educational policy) on the other hand. Figure (9) shows the following:

1- The oil and mining sector has the equivalent of 43% of the fixed capital formation, while the percentage of those admitted to disciplines related to oil and mining activity (such as petroleum engineering, industrial management of petroleum) is very close to zero, while the oil and mining sector can benefit from higher education outputs very significantly and provide hard currency for the country instead of going to foreign companies and expertise.

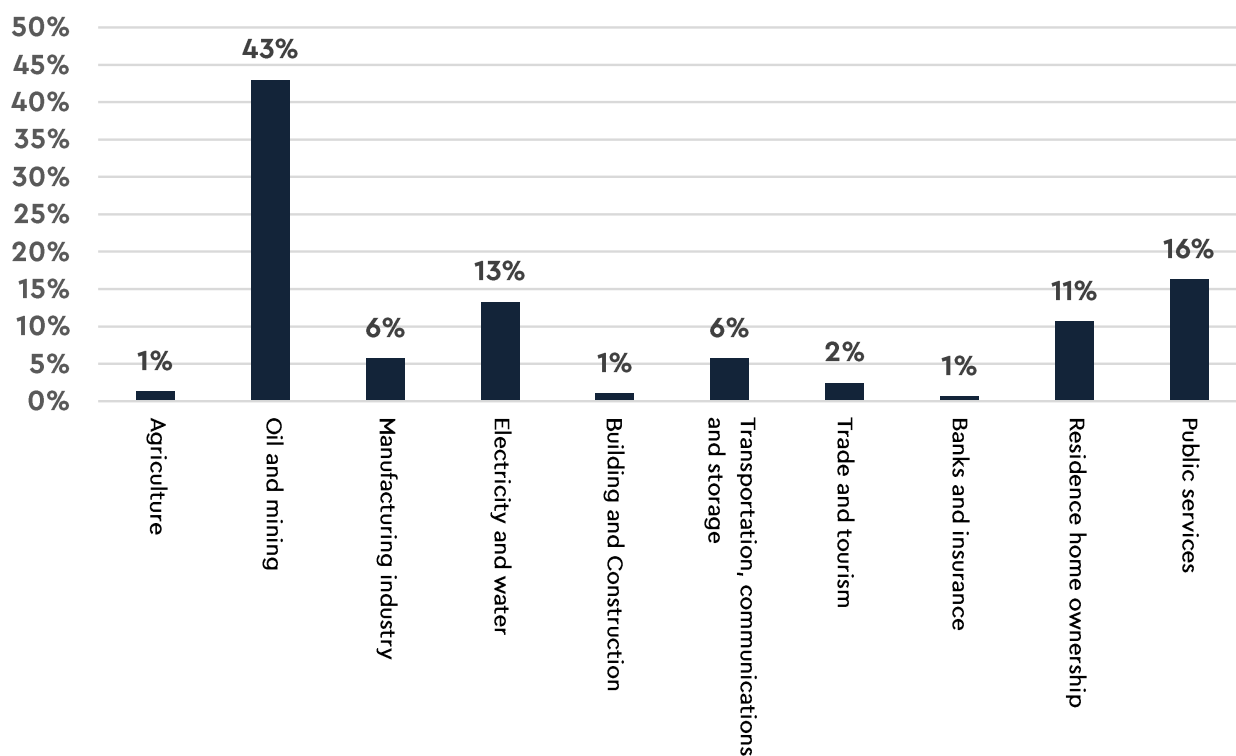
2- Those admitted to the health and education sectors constitute 42% of those admitted to higher education for the year 2019, while capital formation in the public services sector, which includes health services, education and others, does not exceed 16% of the total fixed capital formation, and this will inevitably reflect negatively on the productivity of individuals working in these sectors who are crowded in health and educational institutions with a lack of equipment and assets they need to carry out their responsibilities efficiently and productively.

3- Capital training in the manufacturing sector constitutes only 6%, while the percentage of those admitted to engineering and technical disciplines that can work in this sector is 17%, which means that there is a surplus of engineers and technicians who are not employed and invested in their professional fields.

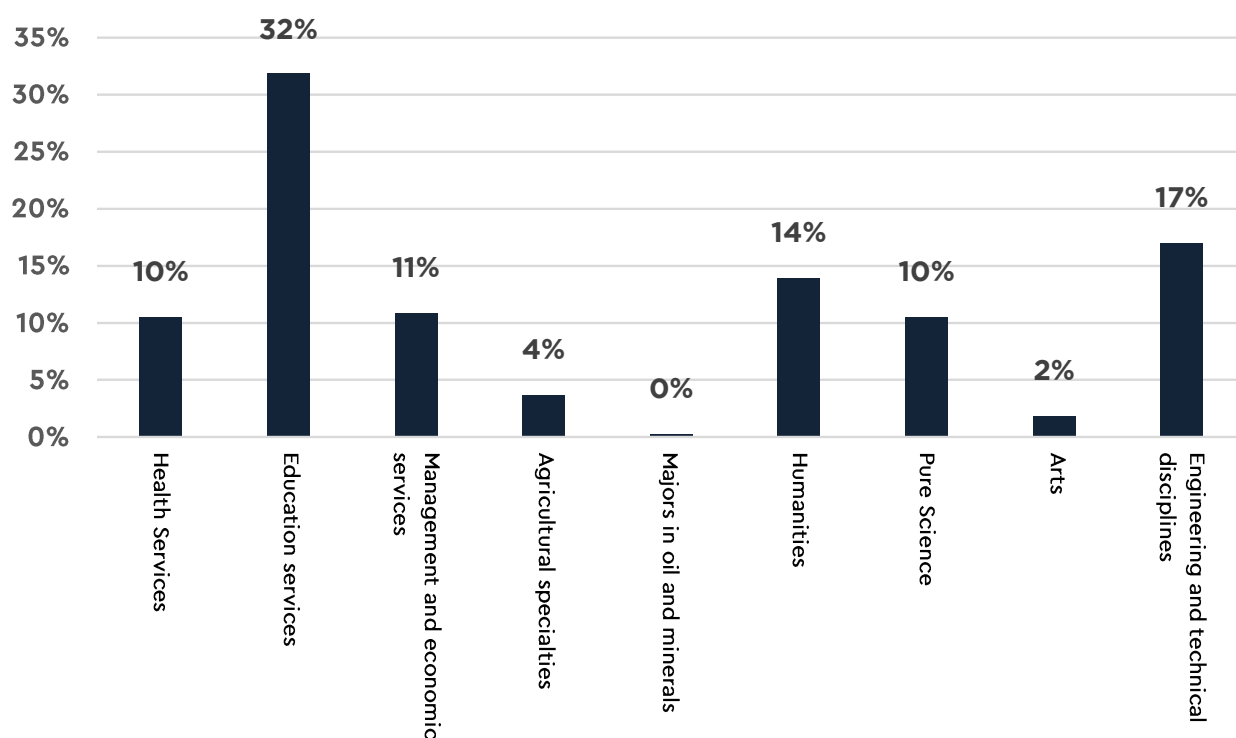
4- Those admitted to management and economics majors constitute 11% of the total admission to higher education in 2019 in Iraq, while we find that the sectors suitable for graduates of these disciplines such as banking, insurance, trade and tourism do not exceed 3% of the total value, and this generates a large surplus in holders of management and economics certificates from the need for local investment.

5- Despite the large agricultural resources in the country, the formation of fixed capital in the agricultural sector does not exceed 1% of the total value, and the percentage of those admitted to specialties that serve this sector does not exceed 4%, which leads to the deterioration of this vital and strategic sector in the medium and long term, due to the reluctance of material and human capital to invest in it.

6- 24% of those admitted to higher education in 2019 are engaged in the fields of pure sciences and humanities, and such disciplines, especially the humanities, are difficult to employ in private investment projects, because the products of these disciplines belong to society in general, and their returns are of a general social nature. Graduates of pure sciences and humanities can engage in purely research activities, and these disciplines can be invested by research and studies centers that study important aspects for society, but they may not be important from the point of view of private investment projects, so the lack of research centers and studies and the weakness of research activities lead to the lack of benefit from graduates from pure sciences and humanities disciplines.

**Figure(9 - A):** relative importance of the total fixed capital formation by economic activities and sector type for the year 2019

Data source: Ministry of Planning, Republic of Iraq, Central Bureau of Statistics, Actual estimates of total fixed capital formation in Iraq for the year 2019

**Figure(9 - B):** relative importance of the total fixed capital formation by economic activities and sector type for the year 2019

Data source: Ministry of Planning, Republic of Iraq, Central Bureau of Statistics, Directorate of Social and Educational Statistics 2021, for university and technical education in Iraq for the academic year 2019/2022

Professions related to health services include faculties of medicine, dentistry, nursing and medical technical colleges, while colleges associated with education services include faculties of education in various disciplines, and administrative and economic disciplines include faculties of management, economics, tourism, business economics, colleges and administrative technical institutes, and engineering and technical disciplines include engineering colleges, colleges and technical institutes in various disciplines except agriculture and oil, and humanities include faculties of law, literature, languages, political science, media and archeology. and Islamic sciences, and pure sciences include faculties of science in various disciplines, and arts include faculties of arts, while oil and mineral disciplines include petroleum engineering and petroleum industrial management, and finally agricultural disciplines include faculties of agriculture, agricultural engineering and veterinary medicine, where the relative importance of the mentioned majors was calculated by taking the total number of students admitted for the academic year 2019/2020 in colleges within that specialization in 35 public universities in the governorates of Iraq except the Kurdistan region, and dividing the total number of students admitted within each major by a number Students admitted to all the mentioned majors.

## Conclusions

1. The existence of a positive and significant impact of education on domestic investment confirms the hypothesis of research that education has two effects on economic growth, the first is the direct impact addressed by micro and macro economic theories, which is to raise the productivity of the labor force, and the second is the indirect effect, which is overlooked by theories and applied studies, which is that education stimulates investment in physical capital and thus increases the rate of economic growth.
2. Just as education affects domestic investment, domestic investment affects education, and the relationship between education and local investment is dynamic and continuous over time.
3. The impact of education on local investment requires a clear and stable trend in investment indicators that allows human capital to make the right decision to choose the appropriate field of scientific specialization to obtain a rewarding return.
4. Education contributes to discovering investment opportunities and making the right investment decisions.
5. The decision to invest locally depends in one way or another on the availability of manpower with appropriate scientific qualification for the success of the investment, otherwise the investment may fail due to the lack of expertise and competencies required.
6. The impact of education on investment requires a compatibility between education and investment policies in the country, especially in countries where the government formulates investment and education policies such as Iraq.
7. The existence of a surplus in higher education outputs in some disciplines and a deficit in others is a clear indication of the misalignment between investment and education policies in that country.
8. The demand for limited specializations by graduates of secondary education, such as medical and educational specialties, is due to the high percentage of capital formation in these sectors compared to other sectors.
9. Poor investment in specific sectors may be a reason for the low enrolment rates in scientific disciplines related to that sector, as is the case in the agricultural sector and agricultural scientific disciplines in Iraq.
10. The State's monopoly on certain productive sectors is not limited to the formation of physical capital but extends to the monopoly of human capital formation, as is the case in the crude oil sector in Iraq.

## Recommendations and suggestions:

- 1- The Iraqi Ministry of Planning should harmonize the admission plans of students to government colleges with local investment plans to ensure an efficient investment of physical and human capital in the country.
- 2- Taking into account investment opportunities in various regions of Iraq in the formulation of education policies, for example, working to open colleges of agriculture in areas where opportunities for agricultural investment are available, and this applies to all rural areas in the provinces of Iraq, or opening colleges for petroleum engineering in the provinces where there are oil fields.
- 3- Taking into account the opportunities for investing the human capital of individuals applying for higher education and not being satisfied with a rate as a criterion for admission to colleges, as preference can be given to the admission of students from agricultural families for admission to colleges of agriculture, or preference is given to students who have practical experience in a particular field for admission to colleges related to their practical experience.
- 4- Supporting graduating students from various scientific disciplines to work in fields compatible with their scientific specializations, and providing material, financial and training facilities to work in institutions within the public or private sector or opening new projects to invest new graduates within the fields compatible with their scientific specializations.
- 5- Encouraging investment opportunities for projects that employ the largest number of graduates of university education in areas compatible with their scientific specializations, and providing financial and service support to them.



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+964 771 878 5050



[info@egciraq.org](mailto:info@egciraq.org)